

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Review of the Section 251 Unbundling)	
Obligations of Incumbent Local Exchange)	CC Docket No. 01-338
Carriers)	
)	
Implementation of the Local Competition)	
Provisions of the Telecommunications Act)	CC Docket No. 96-98
of 1996)	
)	
Deployment of Wireline Services Offering)	CC Docket No. 98-147
Advanced Telecommunications)	
Capability)	

COMMENTS OF WORLDCOM, INC.

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Joint Declaration of John Gallant and Michael Lehmkuhl	Attachment F
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Declaration of Sherry Lichtenberg	Attachment H

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COMMENTS OF WORLDCOM, INC.

WorldCom, Inc. (WorldCom), by its attorneys, respectfully submits the following comments in response to the Federal Communications Commission's (FCC's or Commission's) Notice of Proposed Rulemaking (*NPRM*)¹ issued in the above-captioned proceeding.

I. INTRODUCTION AND SUMMARY

The difficult regulatory work required to open local markets has barely begun. The Commission should not use this triennial review as an opportunity to declare victory prematurely and begin to dismantle the foundation upon which local competition will be built. Failure to adopt and vigorously enforce pro-competitive policies, including non-discriminatory access to the full array of unbundled network elements (UNEs), will allow the incumbent local exchange carriers (LECs) to continue their monopoly over local

¹ *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket Nos. 01-338, 96-98 and 98-147, Notice of Proposed Rulemaking (Dec. 20, 2001) (*NPRM*).

services, re-monopolize the long distance business, and extend their dominance to the newest industry sector, the Internet.

A. Only Six Years Have Passed Since the 1996 Act

The Telecommunications Act of 1996 became law only six years ago, six years during which the telecommunications landscape has been dominated by Bell Operating Company (BOC) litigation and intransigence. Only a few states have been able to overcome the morass of lawsuits and BOC obduracy to arrive at prices for unbundled network elements that comport with the Act's cost-based standard. In the *Local Competition Order*² and the *UNE Remand Order*³, the Commission established a comprehensive scheme of pro-competitive policies, but in the succeeding years it has gutted some of these policies (*e.g.*, effectively precluding competitive carriers from obtaining loop-transport combinations [EELs]) and has failed to enforce others (*e.g.*, national collocation intervals). A Notice that even suggests that in 2002 the Commission is considering removing elements from the list of national unbundled network elements indicates consummate impatience. The experience of the past six years has shown that the Act's scheme for opening local markets works when it is implemented and enforced. The Commission's duty in this proceeding is to give the Act a realistic opportunity to work throughout the country.

Incumbent LECs today continue to enjoy the advantages of monopoly control over local markets that was created and protected by decades of government-sanctioned legal and economic barriers to entry. Consequently, firms that have survived the very slow progress during the first six years of implementation of the 1996 Act, and the recent

² *Implementation of the Local Competition Provision of the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499 (1996) (*Local Competition Order*).

³ *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696 (1999) (*UNE Remand Order*).

precipitous downturn in the telecommunications industry, still need access to the unbundling and other tools that Congress and the Commission have given them to enter and compete in local markets. Indeed, it would be passing strange for the Commission to reward the BOCs for their six-year record of resisting competitive entry into their local markets by relieving them of the obligations that could lead to making those markets competitive.

B. The Long Distance Example Suggests that Six Years is Insufficient to Produce Competition

The development of robust competition for long distance took over twenty years, and the path to long distance competition involved considerably fewer legal and economic barriers than the path to local competition. In 1972, MCI introduced competitive long distance service over its own facilities between Chicago and St. Louis.⁴ From that modest beginning, MCI, supported by a regulatory framework that permitted MCI access to AT&T's nationwide long distance services on a wholesale basis, built a global network. Initial resale of AT&T's services was key to winning MCI enough customers to make build-out of its initially small network economically feasible.

Enabling competition in the long distance business, however, required substantial intervention on the part of the United States Department of Justice, the courts and the Commission. Without the AT&T divestiture in 1984, which eliminated the BOCs' incentive to discriminate in favor of AT&T, it seems inconceivable that today's intensely competitive long distance business would have developed. Non-discriminatory access to exchange access services provided by the BOCs, and regulations that required AT&T to resell its network services, created the environment that made it possible for competitors

⁴ MCI was acquired by WorldCom in 1998.

to build nationwide networks. Ultimately, in 1995, twenty-three years after MCI began providing service, the Commission was able to declare AT&T non-dominant.⁵

Given the much more daunting obstacles to competition for local services than for long distance services, it strains credulity to think that the Commission would be in a position to begin deregulating the incumbent LECs after only six years. Competition for local services raises significantly more difficult issues because the barriers are so high (potentially insurmountable) to entering as an end-to-end facilities-based local carrier. All indications are that there are very significant economies of scale in the loop plant. In addition, even where these economies of scale are not inhibitory, the costs of securing access to buildings and rights of way can preclude efficient entry. Barring a fundamental change in network economics, or an unforeseen technological development, this will continue to be the case indefinitely. The Commission's policy must reflect these realities.

C. The Path Forward is Through Intramodal Competition

Just as development of long distance competition depended on the availability of access to AT&T's services, development of local competition depends on access to incumbent LEC facilities, as unbundled network elements. For the vast majority of customers and services today, there is no alternative to the incumbent LEC networks. Intermodal competition does not today constrain the incumbent LECs' market power, nor will it for the foreseeable future. Competition from satellite and wireless carriers is severely limited by spectrum scarcity and technical disadvantages. The only market in which a competitor can provide service on par with the incumbent LECs is the residential broadband market. But the presence of this single competitor – the cable company – creates a duopoly, not workable competition.

⁵ *Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, Order, 11 FCC Rcd 3271 (1995).

Competitors' networks still extend to only a small share of the locations of business customers. Even carriers with extensive networks depend on incumbent LEC facilities for last mile facilities, and thus cannot constrain the ILECs' exercise of market power. For the vast majority of mass market voice customers, the choice is either the incumbent LEC or a competitive LEC that relies on UNEs. The cable/BOC duopoly for residential broadband services is likely to result in the same high prices and lack of innovation that resulted from the cellular duopoly. And business users cannot obtain DSL services of sufficient reliability and security from any company except a competitive local exchange carrier.

As a result, if the Commission prematurely denies competitive carriers access to unbundled network elements, the incumbent LECs will retain their local monopolies. As they receive in-region, interLATA authority, moreover, the BOCs will be able to offer packages of local and long distance services that can be offered by no competitive carrier in the absence of the necessary UNEs, and the BOCs will re-monopolize the long distance business. The absence of competition will also enable the BOCs to extend their dominance over access to the Internet, and possibly to the Internet itself, historically the most robustly competitive telecommunications sector. Premature deregulation of incumbent LECs is thus extremely risky, and will represent a radical departure from the goals of the Communications Act.⁶

Intramodal competition, in contrast, if pursued rigorously and vigorously, will result in increased investment as well as meaningful developments in competition, although not overnight. The Commission's unbundling requirements and the threat of competition have spurred significant BOC investment since passage of the 1996 Act. For example, the BOCs invested \$100 billion in 1996-2000, significantly stepping up their

⁶ Communications Act of 1934, as amended by the Telecom Act of 1996, 47 U.S.C. §§ 151 *et seq.* (*The Act*).

level of investment.⁷ Competitive carriers also responded to the framework of the 1996 Act and invested \$56 billion in the same time period.⁸ And even during this period of readily available capital, the CLECs did not come close to extending their networks to enough customers and enough places to challenge the incumbent LECs' bottleneck control over the last mile.

Particularly when capital is tight, as it is in today's economy, competitive carriers are required to show a stable and growing revenue stream in order to raise money to build out their networks. If there is any lesson to be learned from the implosion of the competitive LECs, it is that any competitive company that wants to survive for the long term must build its network incrementally as it develops a customer base.

The policies required for competition therefore include ensuring that competitive carriers receive nondiscriminatory access at TELRIC prices to UNEs and UNE combinations, including EELs, UNE-P, and all loop types. If the Commission adopts these policies, and conducts another review in five years, it will likely see that end-user customers have greater choice, lower prices and an opportunity to receive innovative services. The risks of pursuing this approach, moreover, are low. Because companies prefer the control and flexibility that come with owning their own facilities, they can be expected to build, rather than buy, as long as they earn a reasonable return on their investment. Thus, there is little downside, and a large potential upside, if the Commission stays the course and ensures that competitive carriers receive non-discriminatory access to the full range of unbundled network elements.

⁷ See ARMIS Report 43-07 (1996-2000).

⁸ *The State of Local Competition 2001*, The Association for Local Telecommunications Services (February 2001) at p. 20.

D. WorldCom's Comments Provide the Facts, Economic Analysis and Legal Analysis to Support Adoption of Pro-Competitive Policies

Substantively, these comments are divided into two sections. Section II presents the relevant facts and economic analysis regarding the state of competition for business, residential and broadband services. Section III describes the standard for impairment, and the results of the application of that standard for those UNEs and combinations needed to provide business, residential, and broadband services.

1. Facts and Economic Analysis

Business. Although competitive LECs have had some success in serving business customers, the competitive sector still has such a small share of the business market that non-incumbent LECs are irrelevant for purposes of market analysis.⁹ Moreover, even competitive carriers with extensive networks depend on incumbent LEC facilities. Cable, fixed wireless, and competitive fiber facilities provide links to a limited number of business customers today. Although new entrants use competitive fiber facilities, to the extent possible, to provide service to business customers, particularly multi-location customers, competitive carriers often must rely on the incumbent LECs for the provision of "last-mile" facilities, as well as inter-office transport. Competitive carriers connect to only a fraction of the millions of buildings and other commercial locations served by incumbent LECs. Competitive carriers build out to customers where it is economically feasible to do so, but with today's technology, as a general matter, even when the customer is located near an existing fiber ring, it is not economically viable to extend fiber to a building unless customers in that building commit to purchasing at least three DS-3 circuits. Therefore, it is highly unlikely that any company other than the incumbent LECs will reach every building in the United States.

⁹ See, e.g., Public Notice, *Common Carrier, International and Wireless Bureaus Modify WorldCom-Intermedia Merger Conditions* (Nov. 20, 2001) at 2.

Mass Market. For the vast majority of mass market voice service customers, the choice is either the incumbent LEC or a competitive LEC that relies on UNEs from incumbents to offer service. WorldCom has been able to enter certain parts of states where the UNE pricing allows the company to compete against the BOCs by offering a premium product. A small, specialized set of customers, representing approximately two percent of U.S. households, use mobile wireless service (PCS) as their primary voice service. The amount of spectrum available for PCS service is limited, however, and this, combined with higher prices and a signal of poorer quality than for comparable landline service, means that the availability of PCS cannot discipline the local exchange market. Similarly, fewer than two percent of the nation's small business and residential lines are served by cable telephony.

Broadband. Some residential customers have a choice of two broadband options: incumbent LEC DSL or cable modem service. The Commission's experience with cellular duopoly demonstrates, however, that two competitors are not enough to produce the benefits normally associated with robust competition, specifically innovation and lower prices. Competitive LECs with access to efficiently priced UNEs can strengthen the incentives of cable providers and incumbent LECs to foster the widespread deployment of broadband services. Furthermore, not all residential customers have a choice of even two providers, and very few small business customers have a choice of even one broadband provider. WorldCom offers DSL to medium-sized and large businesses with multiple locations out of a small number of wire centers. But to the extent that neither the incumbent LEC nor the CLECs offer business-grade DSL, business customers have no choice but to buy overpriced special access service or do without broadband service entirely.

2. Argument

Section III argues that the Commission should continue to adhere to the legal framework established in the Act and the standards for impairment adopted in the *UNE Remand Order*. In addition, the comments explain why the Commission should reject attempts to impose additional limits on the ability of competitive LECs to obtain and utilize UNEs. Specifically, the Commission should not: (1) adopt a service-specific impairment analysis; (2) impose use restrictions; (3) engage in a “granular” analysis by geographic market; (4) adopt an automatic sunset provision; or (5) establish unbundling requirements that depend on the date of deployment or the technology (*e.g.*, copper or fiber). Section III also confirms that TELRIC continues to be the proper measure of cost for purposes of setting UNE rates and addresses the effect of the Commission’s unbundling rules on other issues, including universal service and long distance competition. Section III then applies the Commission’s impairment standard to those UNEs and combinations needed to provide business, residential, and broadband services.

Business. Competitors will be impaired in their ability to serve business customers without unbundled access to high-capacity loops and transport, including multiplexing functionalities. Incumbent LECs must also be required to provide access to the loop and transport combination known as the EEL. In addition, the Commission must act to ensure that incumbent LECs actually make these UNEs and UNE combinations available. At a minimum, the Commission should expressly clarify that “co-mingling” of services ordered out of interstate and intrastate tariffs and interconnection agreements is permissible, and define the limited circumstances under which it is legitimate for an incumbent LEC to reject a UNE order based on a claim that there is “no facility.”

Mass market. Consumers benefit from UNE-P based competition and there are no disadvantages to the public interest from making UNE-P available. Because competitive carriers are impaired in their ability to serve small business and residential

customers without access to unbundled local switching, the Commission should eliminate – or at least narrow– its existing switching exception. WorldCom demonstrates that doing so will not discourage facilities deployment and will ensure that the many benefits of competition inure to all end users, including residential and small business customers.

Broadband. Competition from competitive LECs and cable companies has been the key spur to broadband deployment by incumbent LECs. As with mass market local services, unbundling has improved, rather than diminished, incumbent LECs' incentives to invest in their broadband infrastructure. Moreover, competitive LECs' DSL offerings depend on unbundled access to UNEs, including loops (both copper and fiber), line sharing, and line splitting. Given the evolution of incumbent LECs' networks toward the increased use of remote terminals, the Commission should also modify its packet switching carve-out to ensure that competitive LECs have unbundled access to DSLAMs in remote terminals.

The final subsection of Section III discusses the remaining UNEs, and explains why they continue to be critical to the provision of competitive telecommunications services. This section demonstrates that competitive LECs will be impaired in their ability to offer telecommunications services without unbundled access to the network interface device and inside wire, signaling networks and call-related databases (including the CNAM database), directory assistance listings, and operation support systems.

3. Summary of Requested UNEs

The list below summarizes the UNEs and UNE combinations that must be provided by incumbent LECs in order for competition to develop. An asterisk indicates a request to modify the Commission's current rules.

UNEs

- Unbundled Loops, including:
 - high-capacity loops such as DS-1, DS-3, and OC-n

- xDSL-capable loops
 - copper and fiber-fed digital loop carrier (DLC) loops/subloops*
 - line sharing
 - line splitting*
- Network Interface Devices and Inside Wire
- Local Switching,* including:
 - packet switching at remote terminals*
- Interoffice Transport
- Signaling Networks and Call-related Databases, including:
 - Calling Name (CNAM) database*
- Operation Support Systems, including:
 - loop qualification information
- Directory Assistance Listings

UNE Combinations

- Enhanced Extended Links (EELs)*
- UNE Platform (UNE-P)

4. Supporting Report and Declarations

In support of its request for unbundled access to these network elements and combinations, WorldCom attaches a report by HAI Consulting, Inc. entitled “The Technology and Economics of Cross-Platform Competition in Local Telecommunications Markets” (*HAI Report*). The *HAI Report* assesses the development of competition since the 1996 Act and the near-term prospects for further facilities-based competition from firms using alternative technology platforms, including cable, wireless, and fiber rings.

In addition, WorldCom is submitting eight factual declarations in support of its comments. Those declarations include:

- *Declaration of Edwin A. Fleming* – Mr. Fleming’s declaration describes the process that WorldCom uses to extend its local network to additional buildings or to additional LEC central offices. It demonstrates the limited circumstances under which such extensions are economically viable today.
- *Declaration of Peter H. Reynolds* – Mr. Reynolds’ declaration, which is being submitted under separate cover subject to the protective order in this proceeding, discusses the extent to which WorldCom is able to provision

loops and transport over its own local network facilities. It shows that, despite multi-billion dollar investments in local network facilities, WorldCom still relies on incumbent LECs to supply the vast majority of the circuits that WorldCom requires to deliver services to its customers.

- *Declaration of Ian T. Graham* – Mr. Graham’s declaration explains WorldCom’s current DSL strategy and its evolution. It demonstrates that WorldCom’s DSL offerings depend on the continued availability of UNEs from incumbent LECs. It also demonstrates that, if WorldCom is denied access to select UNEs necessary for the provision of DSL service, business customers seeking DSL service and independent Internet Service Providers (ISPs) will be deprived of the benefits of high-speed access to data networks and the Internet.
- *Joint Declaration of Tom Stumbaugh and David Reilly* – This joint declaration explains WorldCom’s need to obtain fiber-fed UNE loops from incumbent LECs in order to provide competitive DSL services. It focuses on the role of digital loop carrier (DLC) systems in the continuing evolution of the loop plant and explains that, in order to offer DSL services, WorldCom requires access to all loops provisioned on DLC systems, on “next generation” DLC (NGDLC) systems, on NGDLC systems equipped with Asynchronous Transfer Mode (ATM) capabilities, and on broadband passive optical network systems. Moreover, this declaration explains that CLECs are impaired without access to ILEC DSLAMs located in remote terminals.
- *Declaration of Bernard Ku* – Mr. Ku’s declaration explains that competitive carriers cannot, as a practical matter, self-provision or obtain signaling and call-related databases from third-party vendors. This is the case even where competitive LECs use their own switches.
- *Joint Declaration of John Gallant and Michael Lehmkuhl* – Mr. Gallant and Mr. Lehmkuhl’s declaration describes the Calling Name (CNAM) database, and explains that competitive carriers seeking to maintain their own databases require the ability to download the information contained in the CNAM database in a consolidated form.
- *Declaration of Michael Lehmkuhl* – Mr. Lehmkuhl’s declaration explains that the incumbent LECs control nearly all of the customer listing data that comprise directory assistance listing (DAL) information, and that third-party DAL databases are not as up-to-date as incumbent LEC databases.
- *Declaration of Sherry Lichtenberg* – Ms. Lichtenberg’s declaration describes the continuing need for unbundled access to Operations Support Systems (OSS). It demonstrates that no market or technological changes have occurred

with regard to OSS since the *UNE Remand Order*, and confirms that OSS remains critical to the ability of new entrants to compete in the local market.

II. FACTS AND ECONOMIC ANALYSIS

A. Business Services

1. Services and Players

In assessing impairment, it is important for the Commission to understand the marketplace for local exchange, exchange access, and interexchange services. Here, WorldCom follows the approach taken by the Commission in the *LEC Classification Order*¹⁰ and various merger orders. The FCC has typically identified two distinct markets: a mass market, consisting of residential and small business customers; and a business market, consisting of medium and large business customers.¹¹ The business market includes all voice and data services provided to business customers,¹² including enterprise customers.¹³ Within the business market, the FCC traditionally has examined local exchange and exchange access services separately from interexchange services.

As explained below, the incumbent LECs are the dominant providers of local exchange and exchange access services sold to business customers.¹⁴ Interexchange

¹⁰ *Regulatory Treatment of LEC Provisioning of Interexchange Services Originating in the LEC's Local Exchange Area*, 12 FCC Rcd 15756 (1997) (*LEC Classification Order*) at ¶ 26 (the 1992 Merger Guidelines provide the proper analytical framework for defining relevant markets in order to assess market power).

¹¹ *Application of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc.*, 13 FCC Rcd 18025 (1998) at ¶ 24 (*MCI/WorldCom Merger Order*).

¹² The FCC has declined to separate the larger business market into distinct voice and data markets. *Id.* at ¶¶ 25-27.

¹³ Enterprise customers typically are businesses with multiple locations. These customers seek a single provider capable of serving all of their locations (sometimes throughout a region, or throughout the country) allowing for complete integration of all telecommunications (voice and data) services.

¹⁴ See, e.g., *Application of GTE Corporation and Bell Atlantic Corporation for Consent to Transfer Control of Domestic and International Sections 214 and 310 Authorizations and Applications to Transfer Control of a Submarine Cable Landing License*, 15 FCC Rcd 14032 (2000) at ¶ 120 (*BA/GTE Merger Order*).

services, by contrast, are highly competitive. AT&T, WorldCom and Sprint are among the largest providers of domestic interstate long distance services to large business customers, with WorldCom serving as both a retail and wholesale provider of these services.¹⁵ The BOCs are also likely to be major competitors for this business once they receive authority to offer in-region long distance throughout their service areas.¹⁶ Enterprise customers currently are served primarily by interexchange carriers, which are best able to serve locations in multiple LATAs – at least until the BOCs are granted authority to provide interLATA services throughout their regions.

2. Incumbent LEC Local Facilities Are a Key Input for All Business Services

Exchange access facilities provide the crucial link between customers' premises and carriers' networks. They are an essential input for all business services, including local exchange service, ordinary voice long distance services, data services such as frame relay, ATM, or Gigabit Ethernet, or Internet access services. One of the key characteristics of the enterprise segment of the business market is that enterprise customers typically require service in multiple locations scattered throughout a city or the nation.¹⁷ To compete effectively for an enterprise customer's business, a carrier must be able to obtain exchange access facilities to all of the customer's locations.

Business services are provided via both switched access services and dedicated facilities.¹⁸ Switched access is used for voice services. Dedicated facilities can be used for either voice or data services; increasingly, carriers are offering "integrated" service

¹⁵ *MCI/WorldCom Merger Order* at ¶ 34.

¹⁶ *Id.*

¹⁷ For example, a bank may require frame relay service that connects many branches to a corporate data center.

¹⁸ As described below in sections II.C. and III.D., WorldCom also serves business customers, including enterprise customers, with DSL services.

packages that combine both voice and data services on the same circuit. The bulk of dedicated access circuits are provisioned at the DS-1 level, but a large number of DS-0 or other sub-DS-1 circuits are used as well. DS-3 or higher capacity SONET facilities such as OC-3 and OC-12 circuits are used in smaller numbers.

The circuits that the ILECs use to provide exchange access, both switched and dedicated, are provisioned over both copper and fiber loops. To serve buildings with higher traffic volumes, the ILECs generally provide exchange access to the building over fiber facilities; fiber can support any digital circuit from DS-0 up to OC-n. To serve buildings with lower traffic volumes, the ILECs rely on their ubiquitous copper network. A copper loop can support not only an ordinary voice-grade connection, but also DS-1 or higher bandwidth circuits using older T1 technology, as well as DSL services using HDSL, ADSL, or SDSL electronics at each end of the copper loop.¹⁹

Competition in the exchange and exchange access market is still in its infancy in the vast majority of local areas. Whereas the ILECs can offer exchange access to any business customer location over their ubiquitous copper and fiber networks, CLECs can offer exchange access over their own facilities on only a very limited number of routes.

a) Incumbent LECs' Networks Dwarf Those of Competitive Carriers

WorldCom is the second-largest purchaser of exchange access from the ILECs. WorldCom also self-provides exchange access to high-density buildings in larger metropolitan areas, and, whenever possible, purchases exchange access from other

¹⁹ See, e.g., BellSouth Technical Reference TR73600, Issue 6, "Unbundled Local Loop – Technical Specifications," October, 2001 at 26 (DS-1 unbundled loops "may be provisioned via a variety of loop transmission technologies, including, but not limited to, metallic facilities without signal regeneration, metallic facilities with signal regeneration, metallic facilities with HDSL-based technology, or fiber optic transport systems. The technology used will be based upon existing capacities and distance from the central office.") DSL services used by businesses are discussed below in section II.C.

competitive carriers. Because WorldCom operates on a national basis and offers a full range of telecommunications and Internet services to business customers, its experience as a purchaser of exchange access provides a reliable picture of the competitive alternatives available for exchange access.

Competition for exchange and exchange access services is limited because CLEC networks reach only a small fraction of medium and large business customer buildings. In the nation as a whole, there are almost a million commercial office buildings and millions of other commercial, industrial, and government locations.²⁰ The ILECs can provide exchange access to every one of these buildings (within their respective regions) over their ubiquitous copper and fiber networks. WorldCom, using its own facilities and those of the CLECs with whom it has business relationships, can reach only a few tens of thousands of buildings.²¹ There are some additional buildings that are served by smaller CLECs with which WorldCom does not have a business relationship, but these buildings are not competitively significant because (1) the cost of integrating the CLEC's facilities with WorldCom's network may outweigh the benefits of avoiding ILEC services; or (2) in some cases, the CLEC has not demonstrated that it can provision circuits in a timely manner or that its service quality meets WorldCom's standards.²²

Regardless of how these services are segmented – by dedicated vs. switched access, by circuit type, or by geographical area – competitive alternatives are found on only a small percentage of routes. For example, even if the scope of the analysis is limited to buildings where customers are served using dedicated access, the vast majority

²⁰ Statistical Abstract of the United States; 2001, Table 969 (4.7 million commercial buildings, including 744,000 commercial office buildings).

²¹ *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, CC Docket No. 01-338, Declaration of Peter H. Reynolds on Behalf of WorldCom, Inc. (*Reynolds confidential ex parte*) (filed under protective order, April 4, 2002) at ¶¶ 5, 9.

²² *Id.* at ¶ 9, 12.

of such buildings are not connected to CLEC networks, and can therefore be reached only via ILEC facilities.²³

Competitive alternatives also are limited regardless of the circuit type in question. Although there are more alternatives for higher-capacity circuits, WorldCom alone purchases DS-3 special access circuits from the ILECs to thousands of buildings that are not connected to CLEC networks. The picture is particularly bleak for lower-capacity DS-1 and DS-0 circuits. The vast majority of the buildings where WorldCom serves customers using DS-1 circuits are not connected to CLEC networks.²⁴ Of course, WorldCom's customers represent only a portion of the routes where the ILECs provide dedicated access.

Even in geographic areas that are considered the most competitive, alternatives are still few and far between. For example, the New York Public Service Commission (PSC) has found that Verizon's network "dwarfs its competitors"²⁵ even in LATA 132, which the FCC has consistently characterized as the most competitive area in the nation.²⁶ While Verizon's network serves 7,364 buildings in LATA 132 over fiber, few CLEC fiber networks serve more than 1,000 buildings.²⁷ The disparity in buildings served by fiber is magnified by the fact that Verizon's ubiquitous copper loops allow it to provision switched access and DS-1, voice-grade, and other low-speed dedicated circuits to thousands of other customer locations in LATA 132 that CLEC networks do not reach.

²³ *Id.* at ¶ 6.

²⁴ *Id.* at ¶ 7.

²⁵ New York Public Service Commission, Opinion and Order Modifying Special Services Guidelines for Verizon New York Inc., Conforming Tariff, and Requiring Additional Performance Reporting, Case Nos. 00-C-2051, 92-C-0665 (June 15, 2001) (*NYPSC Special Services Order*) at 7.

²⁶ The FCC found that the high volume of traffic in lower Manhattan "presents special opportunities for the development of competition." *NYNEX Telephone Companies Petition for Waiver*, Memorandum Opinion and Order, 10 FCC Rcd 7445 (1995) at ¶ 40.

²⁷ *NYPSC Special Services Order* at 7.

The percentage of routes with competitive alternatives is limited even in geographic areas smaller than a LATA or MSA, such as the urban core of large cities. For example, WorldCom has analyzed the scope of alternatives in those wire centers where there are already buildings connected to CLEC networks, in 24 large MSAs.²⁸ Even in these more competitive areas, CLEC fiber still reaches only a small fraction of the customer locations where WorldCom serves customers over dedicated circuits.²⁹ If switched access customer locations had been included in WorldCom's analysis, the percentage of customer locations served over CLEC fiber would have been even smaller.

The impact of the lack of competitive choices for exchange access is magnified for enterprise customers. Because only a tiny percentage of business customer locations are served by CLEC fiber, there is almost no chance that *all* of a multi-location customer's buildings can be served over CLEC facilities.³⁰ Thus, virtually every enterprise customer contract requires exchange access facilities that can be obtained only from the ILEC.

On routes where CLECs do not serve the building in question, CLECs must rely on ILEC facilities for at least the loop portion of the circuit. In many cases, they must rely on ILEC facilities for interoffice transport as well. No CLEC network connects to more than a small fraction of the ILEC central offices in each city.³¹

²⁸ *Reynolds confidential ex parte* at ¶ 10.

²⁹ *Id.*

³⁰ For example, a bank's corporate data center may be on a CLEC's fiber ring, but it is highly unlikely that more than a handful of the bank's branches will be served by CLEC fiber.

³¹ *Reynolds confidential ex parte* at ¶ 14.

b) *It Will Take Time for Competitors to Develop Ubiquitous Networks Rivaling those of the Incumbent LECs*

There is little prospect that the percentage of routes with CLEC alternatives will increase at a significant rate. Fundamentally, CLECs' ability to extend their networks to new buildings is limited by the very high fixed and sunk costs of constructing a network extension. As explained in the Declaration of Edwin A. Fleming, the cost of recent WorldCom "building adds" has averaged about \$250,000 per building.³² And the cost of extending fiber to a building is even greater when the target building is more than a mile from WorldCom's existing network; in these cases, WorldCom would add a building only as part of the construction of a new subnetwork, *i.e.*, a new ring, which is typically a multi-million dollar project.

Because the construction costs are so high, only a small percentage of business customer buildings generate sufficient revenues to justify the investment needed to add them to a CLEC's ring. As explained in the *Fleming Declaration*, a building is usually not even considered for a "building add" unless projected WorldCom customer demand in that building is greater than a DS-3. Of the buildings that are considered, moreover, only a limited number ultimately "prove in" as justifying the costs of being added to WorldCom's network. Virtually all of the buildings that have been added to CLEC networks are high-density buildings such as carrier hotels, ISP points of presence (POPs) and very large office buildings, where there is often demand for several DS-3s or even multiple OC-n circuits. However, the vast majority of business customer buildings do not generate such a high level of demand. For example, Qwest (then U S WEST) has reported that over half of the buildings with DS-1 or above service are served by only a single DS-1.³³

³² See Declaration of Edwin A. Fleming, filed with WorldCom's June 11, 2001 comments in response to the BOC "high-capacity" petitions in CC Docket No. 96-98 and provided here as Attachment B (*Fleming Declaration*) at ¶ 8.

³³ Data provided by U S WEST with its 1998 forbearance petition for Phoenix showed

Even if network construction “proves in,” the pace of “building adds” is limited by building access issues. Specifically, CLECs are severely disadvantaged by the fact that the ILECs have discriminatorily favorable access to buildings. CLECs are usually asked to pay unreasonable fees or high rents for access to multi-tenant environments (MTEs), while the ILECs are able to gain such access for free. One landlord in New York, for example is seeking \$100,000 per year to provide WorldCom access to the landlord's building.³⁴ Such discriminatory treatment, as well as limitations on available capital and engineering resources contribute to the fact that even larger CLECs, such as WorldCom and AT&T add, at most, a few hundred buildings to their networks each year.³⁵ And, as discussed in more detail below, the financial difficulties encountered by smaller CLECs make it likely that the pace of future CLEC building adds will be slower than in the late 1990s.

Furthermore, the time required to construct new facilities often precludes CLECs from competing for a customer. Whereas the ILECs, with their ubiquitous networks, usually have facilities already in place, CLECs typically need between six and nine months to construct a network spur to a new building. The process can take significantly

that, of the 3101 end user buildings in the Phoenix MSA with “high speed” service (DS-1 and above), over half – or 1634 locations – were served by only a single DS-1. *Petition of U S WEST Communications, Inc. for Forbearance from Dominant Carrier Regulation in the Phoenix, Arizona MSA*, CC Docket No. 98-157 (Aug. 24, 1998) at Attachment B, Appendix D.

³⁴ Other examples abound. In a Northern Virginia building, the landlord asked WorldCom to pay a monthly fee of \$850 and a one-time license administration fee of \$1,700 for space for one rack of equipment in the lower level “meet me room” of the building, even though the market rate for floor space area was about \$340 a month at the time. The request equated to \$1,133 per square foot (using nine square feet for a rack footprint), which is about 45 times the average office lease rental rate. The ILEC, meanwhile, is paying nothing for access to the same building.

³⁵ AT&T 10-K, April 2, 2001 (on-net buildings increased from 5,800 in 1999 to more than 6,000 in 2000).

longer if, as is often the case, the CLEC encounters roadblocks when negotiating rights-of-way and building access agreements.

The construction of transport facilities to ILEC end offices is equally daunting. As explained in the *Fleming Declaration*, the extension of WorldCom's local network to an additional ILEC central office generally costs at least \$1 million, even when the target central office is close to WorldCom's existing network, and costs substantially more if the target central office is several miles from WorldCom's existing network, as is typically the case.³⁶ Because the fixed and sunk costs of extending a CLEC network to an additional ILEC central office are so high, it is generally not viable for CLECs to construct transport facilities unless the route is relatively short and the traffic density relatively high. Beyond the urban core and higher-traffic offices in the inner suburbs of cities, CLECs must generally rely on ILEC transport.

i. Lack of Funding From the Capital Markets Has Forced Competitive Carriers to Put their Expansion Plans on Hold

The CLEC industry is currently in the midst of a substantial economic downturn. At the end of 2000, there were 300 CLECs in business; by 2001 that number had dropped to 150,³⁷ as numerous companies filed for bankruptcy protection.³⁸ Venture capital funding for competitive telecommunications carriers has dried up.³⁹ Venture capital investment in the telecommunications industry had declined over 50 percent as of April

³⁶ *Fleming Declaration* at ¶¶ 13-14.

³⁷ *Big Business: Why the Sudden Rise in the Urge to Merge and Form Oligopolies*, WALL ST. J., Feb. 25, 2002.

³⁸ *See, e.g.,* Yuki Noguchi, *E.spire Files for Bankruptcy*, WASH. POST, Mar. 22, 2001.

³⁹ Neal Weinberg, *The Economic Slowdown to Affecting Network Spending Equipment, Services and Software, Shaking Some Enterprise Segments to the Core*, NETWORK WORLD, Apr. 23, 2001 at 77 (Weinberg).

2001, compared to Spring 2000.⁴⁰ And there is no indication that things have changed for the better in recent months.⁴¹

The lack of capital funding is a reaction to the fact that, overall, CLECs currently are not profitable and are not expected to be for some time.⁴² “In spite of the tens of billions of dollars that have been invested in the upstart carriers, they have been able to capture only 8 percent of the nation’s local telephone lines.”⁴³

With the change in the market, there is extremely limited available capital for competitive carriers to extend their networks. The lack of capital is likely to cause delay or cancellation of CLEC expansion plans for physical plant.⁴⁴ This, in turn, will reduce deployment of fiber to end-users.⁴⁵ If market conditions were better, many carriers that now typically serve and have access to Tier 1 cities, might have built out to second and third tier cities, which are generally underserved.⁴⁶

***ii. Many Assets Remaining from CLEC Bankruptcies
Cannot be Put to Competitive Use***

Although billions of dollars have been invested by CLECs, much of that investment is sunk and cannot be recovered and put to competitive use. Moreover, one of the most important assets of these firms is human capital. The value of these companies

⁴⁰ Bill Scanlon, *Newsfront: Carrier Retreat Bashes Gear Vendors*, INTERACTIVE WEEK, Apr. 9, 2001 at 12.

⁴¹ Gregory Zuckerman and Deborah Solomon, *Wrong Numbers: Telecom Debt Debacle Could Lead to Historic Proportions - Upstarts Borrowed Like Mad; Now Their Assets Fetch Pennies on the Dollar - A Yard Sale in Cyberspace*, WALL ST. J., May 11, 2001.

⁴² Weinberg.

⁴³ Wanda Avila, *Weathering the Telecom Crisis*, ELECTRONIC PERSPECTIVES, Nov. 2001 (Avila).

⁴⁴ Center for Telecommunications and Advanced Technology, 12 THE TELECOMM. REV. 80-81 (2001).

⁴⁵ *Id.* at 81.

⁴⁶ Avila.

therefore has been further reduced to the extent that their precarious financial condition has caused employees to leave or be laid off.

It is true that switches may be re-deployed and fiber added to the networks of the survivors at low cost and that firms that are able to emerge from bankruptcy will be better able to compete, having been relieved of their heavy debt burdens. The problem is that most of the CLECs that have built transmission facilities have built them in core urban areas where substantial redundant fiber and switching capacity already existed.⁴⁷ The key to expanding local competition is to extend networks to customers that do not already have competitive alternatives.

3. The ILECs' Tactics Have Prevented UNE-based Competition From Taking Hold

The 1997 *Access Reform Order's* “market-based” approach to access reform specifically contemplates that CLECs can use unbundled elements to compete in the provision of exchange access services.⁴⁸ In practice, however, CLECs’ ability to use unbundled elements to compete on those routes where they do not have their own facilities has been severely restricted. First, the Commission has declined to order the ILECs to provide “new” combinations of unbundled elements. Second, the Commission, in the *Supplemental Order Clarification*,⁴⁹ adopted rules that made it virtually impossible to convert ILEC special access services to EELs. Third, even when CLECs seek to convert only the channel termination portion of a special access circuit to an unbundled loop, the ILECs generally contend that the *Supplemental Order Clarification* prohibits

⁴⁷ Peter W. Huber, *UNE Fact Report*, Submitted by the United States Telephone Association, CC Docket No. 96-98 (May 26, 1999) at I-10 – I-20 (*Huber*).

⁴⁸ *Access Charge Reform*, First Report and Order, 12 FCC Rcd 15982 (1997) at ¶ 262 (*Access Reform Order*).

⁴⁹ *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Supplemental Order, 15 FCC Rcd 9587 (2000) (*Supplemental Order Clarification*).

conversion of loops that include multiplexing, since multiplexing is available only as an ILEC service, and services may not be "commingled" with network elements.

In the rare cases in which the ILEC does not claim that it need not provide an element pursuant to the *Supplemental Order Clarification*, the ILECs take other steps to withhold access to the element. Frequently, the ILECs refuse to provision DS-1 loops and other elements because, they claim, facilities are not available. Verizon, for example, contends that it "has no legal obligation to add DS-1/DS-3 electronics to available wire or fiber facilities to fill a CLEC order for an unbundled DS-1/DS-3 network element."⁵⁰ By using "no facilities" as a pretext to reject a significant percentage of orders, the ILECs preclude CLECs from relying on unbundled elements as a service delivery mechanism.

CLECs have also sought to offer exchange access services using xDSL transmission over unbundled copper loops. Using this strategy, CLECs could potentially compete with the ILECs on the many routes where the ILECs offer DS-1 and other lower-bandwidth exchange access services using their copper plant. However, as discussed in more detail in section III.D, the ILECs have used a wide variety of tactics to frustrate CLECs' ability to offer xDSL-based services, including the rejection of orders for fiber-fed loops.

B. Mass Market Services

The goal of the Telecommunications Act of 1996 is to bring competition to all telecommunications markets. "The vast majority of access lines in the United States – approximately 144 million out of 174 million total switched-lines – are provided to mass market residential and small business consumers of analog dial tone service, or

⁵⁰ See *Performance Measurements and Standards for Unbundled Network Elements and Interconnection*, CC Docket No. 01-318, Comments of Focal Communications Corporation, Pac-West Telecomm, Inc. and US LEC Corp. (filed Jan. 22, 2002) at 48, n.85, citing Verizon letter, "DS1 and DS3 Unbundled Network Elements Policy," dated July 24, 2001.

‘POTS.’”⁵¹ Consistent with the Act, each of these consumers deserves a choice of local providers. Yet six years after passage of the Act, only a relatively small percentage of these customers have such a choice. Local competition is only now beginning to take hold, provided primarily by carriers using the unbundled network elements platform (UNE-P).⁵² UNE-P is the only viable method for providing ubiquitous service to the residential and small business market. Thus, in reviewing its policies on unbundled network elements, it is imperative that the Commission recognize the continued necessity of UNE-P to create competition for local services.

1. UNE-P is Critical to Competition for Residential and Small Business Customers

UNE-P is without question the leading delivery mechanism for competitors to offer service to residential customers.⁵³ Indeed, as more and more local competitors fail,⁵⁴ it is clear that UNE-P is one of the few success stories in local competition. As Chairman Powell acknowledged in a letter to Congress, “. . . even most Bells agree that UNE-P should be available for serving residential customers *everywhere*.”⁵⁵ In fact,

⁵¹ Resolution Concerning The UNE Platform, NARUC 2001 Resolutions and Policy Positions (*NARUC Resolution on UNE Platform*).

⁵² The unbundled network elements that comprise UNE-P include the local loop, the network interface device (NID) where the local loop terminates at the customer’s premises, the switch port that connects the local loop to the ILEC’s switch for unbundled local switching, signaling and call-related databases, and the transport of telephone calls from the ILEC switch to another ILEC switch (for local or intraLATA calls) or to an interexchange carrier’s point of presence (for interLATA long distance calls) and OSS. *See Putting the Horse Before the Cart: The History and Future of the UNE Platform*, Z-Tel Technologies, Inc. (Feb. 2001) at p. 2.

⁵³ *Competitive Local Exchange Carriers Sandblasted By the Economy*, US Emerging Telcos, Deutsche Bank Alex. Brown, p. 16 (Jan. 15, 2002) (*Deutsche Bank Report*).

⁵⁴ *Telecomm Industry Faces Reckoning – Buried in Debt, Firms Are Falling In Record Numbers*, WALL ST. J., May 11, 2001.

⁵⁵ Powell, Hon. Michael K., Chairman, Federal Communications Commission, letter submitted to Upton, Hon. Fred, Chairman, Subcm. on Telecom. and the Internet, Cmt. on Energy and Commerce (June 15, 2001) at p. 8 (emphasis added); *see*, FCC Chairman

even BOC out-of-region local entry plans depend upon the continued availability of UNE-P.⁵⁶ Indeed, denying UNE-P would virtually doom residential competition.⁵⁷

UNE-P is equally essential to the delivery of service to small business customers, as explained in more detail in Section III.C.2. For a CLEC to provide analog POTS service for a small business customer using its own switches, the ILEC would have to engineer a hot-cut that in today's network frequently involves manual work that cannot be performed on a mass-market basis, the CLEC would have to collocate and backhaul the traffic to its switch, and the customer would have to bear the cost and disruption of these procedures – costs and disruption the customer is not likely to find worthwhile when it is seeking merely to receive analog POTS service. Moreover, until it builds a substantial customer base, a CLEC using its own switches and transport cannot achieve all of the scale economies the ILEC enjoys.⁵⁸ These costs, delays, and inconveniences make such

Michael Powell: Agenda and Plans for Reform of the FCC, Hearing before the Subcmt. on Telecom. and the Internet of the Cmt. on Energy and Commerce, House of Representatives, 107th Congr., 1st S., Serial No. 107-21 (March 29, 2001) at p. 72.

⁵⁶ “SBC revealed during the review of its merger with Ameritech that its out-of-region entry strategy was premised on the use of network element combinations to serve the residential and small business market. Further, in Pennsylvania, Bell Atlantic was ordered to file a plan to separate its operation into wholesale and retail affiliates. As part of that filing, Bell Atlantic (now Verizon) proposed to use UNE-P as its principle entry strategy.” Direct Testimony of Joseph Gillan on behalf of the Texas UNE-P Coalition, *et al.*, *Petition of MCIMetro Access Transmission Services, et al., for Arbitration with Southwestern Bell Telephone Company Under the Telecommunications Act of 1996*, Before The Public Utilities Commission of Texas, Docket No. 24542 (*Gillan Texas Direct*) at p. 29, *citing to*, Deposition and Testimony of James Kahan on behalf of SBC, Public Utilities Commission of Ohio, Case No. 98-1082-TP-AMT and Re Structural Separation of Verizon Pennsylvania Inc. Retail and Wholesale Operations, Pennsylvania Public Utility Commission, Docket No. M-00001353.

⁵⁷ As a recent financial analysis concluded, “[a]ny changes or elimination of the UNE-P platform would be detrimental to the efforts of some of the largest CLECs attacking the residential market – MCI and AT&T.” *Deutsche Bank Report* at p. 22.

⁵⁸ Because the ILECs retain their monopoly grip on mass market customers, the need for the UNE Platform to enable competitors to achieve the incumbents' economies of scope and scale is the same as it has been over the last six years. As the Commission

switch-based POTS service impossible with today's network, given the market share of today's CLECs.⁵⁹ As a result, there is almost no facilities-based or UNE-loop competition for small business customers.

For all of these reasons, UNE-P remains at present the only entry strategy that enables competitors to penetrate the residential and small business market – the mass market⁶⁰ – at an acceptable cost. As illustrated below, there simply is no viable alternative to UNE-P for broadbased mass market competition.⁶¹

recognized in the *Local Competition Order*, "[t]he incumbent LECs have economies of density, connectivity, and scale; traditionally, these have been viewed as creating a natural monopoly ... the local competition provisions of the Act require that these economies be shared with entrants." *Local Competition Order* at ¶ 11. Similarly, in the *UNE Remand Order*, the Commission noted that "[t]he incumbent LECs still enjoy cost advantages and superiority of economies of scale, scope, and ubiquity as a result of their historic, government-sanctioned monopolies. These economies are now critical competitive attributes and would belong unquestionably to the incumbent LECs if they had 'earned' them by superior competitive skills. These advantages of economies, however, were obtained by the incumbents by virtue of their status as government-sanctioned and protected monopolies. We believe that these government-sanctioned advantages remain barriers to the requesting carriers' ability to provide a range of services to a wide array of customers, and that their existence justifies placing a duty on the incumbent carriers to share their network facilities." *UNE Remand Order* at ¶ 86.

⁵⁹ Nor can a CLEC adopt a competitive marketing strategy that would enable it to recover its one-time costs through monthly charges. Unlike large businesses, small business customers typically do not sign term contracts committing them to a particular provider for a period of several years.

⁶⁰ Mass market customers are residential and small business customers that are reached primarily via telemarketing and other forms of direct marketing and advertising, rather than via dedicated sales teams.

⁶¹ The Commission has emphasized that the ability of requesting carriers to use UNE combinations is integral to achieving Congress's objective of promoting competition in local telecommunications markets. *Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services in Michigan*, Order, 12 FCC Rcd 20543 at 20718-19 (1997); *Application of BellSouth Corporation, et al. Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services in South Carolina*, Order, 13 FCC Rcd 539 at 646 (1997).

2. UNE-P Competition Is Developing as Regulatory Hurdles are Reduced

It is only now becoming apparent that UNE-P enables CLECs to compete successfully in the local market. Because UNE-P has only recently been made available at anywhere near cost-based rates, successful competition using UNE-P is in its infancy.⁶² Although the Act is 6 years old, competitors only serve 5.5% of residential and small business customers.⁶³ But the potential for significant growth exists in the near future.

Although the Commission declared that competitors could purchase all the elements in combined form at TELRIC rates in its 1996 *Local Competition Order*, competitors have been effectively denied these economies for years by relentless BOC litigation and anti-competitive practices. The BOCs responded to the Commission's *Local Competition Order* with numerous legal challenges, including a challenge to the availability of UNE-P. Even though the Act specifically contemplated three modes of entry into the local market (facilities-based, UNE-based, and resale), the BOCs argued that UNEs are available only to carriers who also use some of their own facilities to provide service. Additionally, they argued that, even if a new entrant were entitled to all of the elements of the networks as UNEs, the elements must be "physically separated" into discrete pieces, requiring the competitor to combine them.

In 1999, the Supreme Court flatly rejected both of the above BOC arguments. In finding that the Commission's exclusion of a facilities-ownership requirement was proper, the Court explained that the "1996 Act, imposes no such limitation; if anything, *it suggests the opposite*, by requiring in section 251(c)(3) that incumbents provide access to 'any' requesting carrier."⁶⁴ The Court further held that section 251(c)(3) "does not say,

⁶² Indeed, MCI WorldCom was the first company to begin a statewide launch of UNE-P in December 1998 in New York.

⁶³ *Federal Communications Commission Releases Data on Local Telephone Competition*, News Release (Feb. 27, 2002).

⁶⁴ *AT&T. Corp. v. Iowa Utils. Bd.*, 525 U.S. 366, 392-3 (1999) (emphasis added).

or even remotely imply, that elements *must* be provided [in discrete] fashion and never in combined form.”⁶⁵ According to the Supreme Court, therefore, there is no question as to whether the Act contemplates UNE-P.

Nonetheless, the lack of certainty regarding access to unbundled elements at reasonable prices, which stemmed from years of litigation, resulted in minimal penetration of the residential and small business local markets by competitors.⁶⁶ Even today, the continued availability of UNE-P to serve small business customers remains uncertain given the Commission’s failure to address a motion for reconsideration of the *UNE Remand Order* that seeks to limit UNE-P to residential customers. Competition using UNE-P was further impeded by state commission decisions setting high UNE rates, as well as by BOC OSS and provisioning problems. However, one state commission recognized early on the importance of UNE-P in bringing competition to consumers. The New York Public Service Commission (NYPSC), amidst all the BOC litigation, formed an agreement with Verizon (then Bell Atlantic) that Verizon offer UNE-P. And while the NYPSC, like others, set UNE rates that were far above cost, the rates still allowed competition to develop in parts of the state because retail rates in New York were also high. Recently, the NYPSC has significantly lowered UNE prices, further improving New York’s competitive landscape.⁶⁷

⁶⁵ *Id.* at 394.

⁶⁶ See *UNE Remand Order* at ¶ 11 (“[T]he residential and small business markets, and geographic markets outside of major metropolitan areas, have seen minimal competition. This may be due to the uncertainty surrounding the ability of competitive LECs to use reasonably priced unbundled network elements to serve these areas as a result of litigation concerning the Commission’s unbundling rules”).

⁶⁷ Federal Communications Commission, Common Carrier Bureau, Industry Analysis Division, *Local Telephone Competition: Status as of June 30, 2001*, Table 9 at 6, 7, and 19 (*February Local Competition Report*). As of June, 2001, 65 percent of local service provided by CLECs in New York was provided to residential and small business customers. See, New York Public Service Commission, *Proceeding on Motion of the Commission to Consider Cost Recovery by Verizon and to Investigate the Future*

The impact of the NYPSC's efforts to ensure access to the UNE-P is indisputable. As the Commission noted, the NYPSC's early initiative enabled WorldCom (then MCI WorldCom) to acquire upwards of 60,000 new local residential customers in New York in a six month period.⁶⁸ As of December 2000, New York had the highest percentage for CLEC share of the local market of any state at 20%⁶⁹ and that share has now grown to 27%.⁷⁰ New York also had the highest percentage for CLEC share of the residential and small business market at 19%, over double the percentage of the state with the next highest level – Texas.⁷¹ Indeed, New York is the only state in which CLECs serve as high a percentage of residential customers as they do of business customers.⁷² The relatively high level of local competition in New York demonstrates the importance of UNE-P to local competition.

The importance of UNE-P to competition in the residential and small business market is further demonstrated by Z-Tel's empirical analysis of the data from the

Regulatory Framework, and Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements, Cases 00-C-1945 and 98-C-1357, Order Instituting Verizon Incentive Plan (Feb. 27, 2002) (Re Verizon-NY).

⁶⁸ *UNE Remand* at ¶ 12.

⁶⁹ Federal Communications Commission, Common Carrier Bureau, Industry Analysis Division, *Local Telephone Competition: Status as of December 31, 2000* (May 2001) at Tables 6 & 8 (*May Local Competition Report*).

⁷⁰ Currently, 27 percent of the access lines in New York are served by CLECs, and over half of those access lines are provided via UNE-P, a figure that is expected to grow significantly. *Re Verizon-NY* at 31.

⁷¹ *See February Local Competition Report*. ((CLEC total lines (Table 6) * % CLEC lines Provided to Residential/Small Business Customers (Table 8) / [(ILEC total lines (Table 6) * % ILEC lines Provided to Residential/Small Business Customers (Table 8)) + (CLEC total lines (Table 6) * % CLEC lines Provided to Residential/Small Business Customers (Table 8))]. Pricing in Texas effectively precludes use of UNE-P outside of a few big Texan cities. Thus, MCI is only actively marketing local service to about a quarter of the households in Texas.

⁷² *February Local Competition Report*, Table 9.

Commission's FCC Form 477 and the *May Local Competition Report*. Z-Tel concluded that where the availability of unbundled local switching is restricted, there is substantially less competition for residential and small business customers.⁷³ It is also noteworthy that in Texas, competitors achieved a larger share in six months with UNE-P, than they had in five years with UNE-loops (with the CLEC providing local switching).⁷⁴ In fact, with the addition of 1,000,000 competitive lines through UNE-P between January 2000 to June 2001, "UNE-P accounts for between 88% and 95% of the net gain in competitive activity in Texas [in that period]."⁷⁵

State commissions have begun to appreciate the importance of UNE-P to the development of residential and small business competition. Commissions in many states have started to reduce the prices charged for unbundled elements. For example, in Ohio, SBC was charging competitors \$111.86 per line for every customer that migrated to a competitor's UNE-P-based service. By contrast, competitors in Michigan were only being charged \$0.35 per customer to accomplish the same change. Ohio regulators eventually reduced the fee to \$0.74.⁷⁶ This change contributed to MCI's decision to enter the local market in Ohio this February. States have also gradually facilitated improvement in BOC OSS and provisioning. Moreover, at its November 2001 annual convention, NARUC resolved to support the "universal availability of the UNE-P."⁷⁷

⁷³ *An Empirical Exploration of the Unbundled Local Switching Restriction*, Z-Tel Policy Paper No. 3, Z-Tel Communications, Inc. (Nov. 2001); see also *May Local Competition Report*. The NYPSC has taken steps to make UNE-P available to serve small business customers throughout the state, despite the FCC restrictions, in order to enhance competition. *Re Verizon – NY* at p. 24.

⁷⁴ *Gillan Texas Direct*, p. 38.

⁷⁵ *Id.* at p. 13.

⁷⁶ *Familiar Ring, How Effort to Open Local Phone Markets Helped the Baby Bells*, WALL ST. J. (Feb. 11, 2002).

⁷⁷ *NARUC Resolution on UNE Platform*.

As noted above, the Commission's initial unbundling rules are only now being implemented in many areas as states are finally beginning to create the conditions necessary for substantial expansion of UNE-P. UNE-P competition is thus in its infancy, and has the potential to grow substantially. WorldCom's MCI Group (MCI) is the largest UNE-P local provider, serving 1.5 million UNE-P customers at the end of 2001.⁷⁸ MCI's goal is to "reach 70% of all U.S. households in ILEC territory by the end of this year."⁷⁹ UNE-P is the only viable option for achieving that goal.⁸⁰

3. No Viable Alternative to UNE-P Exists to Provide Ubiquitous Competition

UNE-P is the only method technologically capable of reaching mass market customers at an acceptable cost. This is apparent from considering the above data showing that significant residential competition exists only where UNE-P is prevalent. It is also apparent from considering the economic and technological barriers to possible alternative methods of entry.

a) *End-to-End Facilities-Based Competition is Not Yet Viable*

Congress knew that competitors could not possibly enter markets rapidly if they were forced to build duplicative networks "because the investment necessary was so significant."⁸¹ End-to-end facilities-based entry requires significant sunk costs that must be recovered. The economies of scale and scope necessary to make such recovery possible are not available in less dense areas.⁸² Consequently, most CLECs that have

⁷⁸ Speech of Wayne Huyard, Chief Operating Officer, MCI Group at NARUC Winter Committee Meetings (Feb. 11, 2002) (*Huyard Speech to NARUC*).

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ H.R. Conf. Rep. No. 104-458 at 148 (1996).

⁸² HAI Consulting, Inc., *The Technology and Economics of Cross-Platform Competition in Local Telecommunications Markets* (April 4, 2002), attached as Attachment A at p. 63 (*HAI Report*).

built actual transmission facilities have built them in core urban areas, almost exclusively for service to large business customers.

The combination of MCI, MFS, and Brooks gave WorldCom the most extensive CLEC assets in the country, at the cost of billions of dollars. Yet, after a comprehensive evaluation, WorldCom concluded that it did not make economic sense to spend the additional capital necessary to attempt to leverage these assets to enter the mass market through end-to-end facilities-based service.⁸³ A viable business model simply does not exist at this time for the construction of facilities to provide local voice service to residential and small business customers.⁸⁴

The substantial costs of deploying the facilities are further increased by the barriers that CLECs continue to face in gaining access to municipal rights-of-way and MTEs (both essential to facilities-based providers of service). Since the passage of the Telecommunications Act, CLECs' ability to install their facilities has been hampered by municipal ordinances that have imposed excessive, non-cost based fees on access to rights-of-way and have also delayed such access through unnecessary and cumbersome application procedures and bonding requirements.

Additionally, although the Commission established certain requirements to increase CLECs' access to MTEs in its *Competitive Networks Order*,⁸⁵ competitive telecommunications service providers have continued to experience difficulties in

⁸³ *Huyard Speech to NARUC*.

⁸⁴ *HAI Report* at pp.19, 67.

⁸⁵ *Promotion of Competitive Networks in Local Telecommunications Markets*, WT Docket No. 99-217, First Report and Order and Further Notice of Proposed Rulemaking in WT Docket No. 99-217, Fifth Report and Order and Memorandum Opinion and Order in CC Docket No. 96-98, and Fourth Report and Order and Memorandum Opinion and Order in CC Docket No. 88-57, FCC 00-366 (released October 25, 2000) (*Competitive Networks Order*).

obtaining non-discriminatory access to MTEs.⁸⁶ While some state commissions and state legislatures have adopted non-discriminatory building access requirements, the majority have not. Thus, in most states, competitors are left without building access remedies.

Moreover, to make the investments necessary to provide end-to-end facilities-based service, firms must be able to attract capital. The ability of CLECs to attract capital has been decreasing since the passage of the Act, as “investors have tempered their enthusiasm.”⁸⁷ As explained above, many CLECs find themselves in severe financial distress. These firms are cutting back expansion plans and will have difficulty raising new equity.⁸⁸ Thus, end-to-end facilities-based entry is not now, and may not in the future be, an efficient mode of establishing ubiquitous competition.⁸⁹

b) UNE-Loops Alone Are Not Sufficient to Ensure Competition for Mass Market Customers

The leasing of the loop alone (without switching) also is not at present a viable option for entrants serving the mass market. While UNE-P can be ordered and provisioned through entirely automated processes, provisioning of UNE-loops requires a manual “hot cut” to transfer the loop from the incumbent’s switch to a competing carrier’s switch, unless the customer happens to be served off of a digital loop carrier (DLC) loop.⁹⁰ Yet this manual process risks degradation of service and is expensive – a very important factor in a market in which the profit margin is thin and customer churn is relatively high. Customers may migrate away from the CLEC before the CLEC recovers installation and non-recurring costs. Most CLECs do not yet have a sufficient base of

⁸⁶ See discussion above in Section II.A.2.b.

⁸⁷ *Deutsche Bank Report* at p. 11.

⁸⁸ *HAI Report* at pp. 65-66.

⁸⁹ *Id.* at p. 67.

⁹⁰ This is so regardless of whether the switch-based carrier has just won the customer or wishes to migrate the customer’s UNE-P service to service via its own switch.

mass market local customers to warrant purchasing their own switches given the tremendous economies of scope and scale inherent in switching. Consequently, eliminating UNE-P would likely cripple competition for mass market customers because, if CLECs were denied access to UNE-P, they likely would withdraw from the residential and small business market.

c) Cable Telephony Is Not a Significant Alternative

The impact of cable telephony on the national market for local exchange service is extremely limited. Only 1.9 million (or less than two percent) of the roughly 118 million residential and small business access lines in the United States are provided over cable.⁹¹ The limited cable competition that does exist is concentrated in certain service areas. Most residential and small business customers do not even have the option of using cable telephony.⁹² This is unlikely to change until, and unless, IP telephony becomes a viable alternative to circuit switched telephony.

Today, circuit-switched technology is the only technology available for cable operators seeking to offer primary-line telephone service in direct competition with an incumbent LEC.⁹³ But cable operators have performed the upgrades necessary for subscribers to receive cable telephony for only 11.7 million homes, approximately 11% of the 103 million telephone households across the U.S.⁹⁴ More importantly, even where the capability to provide cable telephony now exists, only a few operators are aggressively using it.⁹⁵ This is because of the high incremental cost of providing cable telephony, the promise of new technologies that would reduce cost and simplify

⁹¹ *HAI Report* at p.21.

⁹² *Id.* at pp. 21-23.

⁹³ *Id.* at p. 30.

⁹⁴ *Id.* at p. 23.

⁹⁵ *Id.* at p. 26.

operations, and the perception that other advanced services, such as digital television and broadband Internet, provide better revenue opportunities.⁹⁶ Indeed, digital television has 7.5 times the penetration of cable telephony.⁹⁷

IP telephony, sometimes referred to as Voice over IP (VoIP), is the only reasonable hope for significant market penetration by cable providers. VoIP relies on the digitized and packetized voice signals that may be carried on a variety of underlying physical networks.⁹⁸ Although progress on IP telephony continues, much of the equipment that is required to support the service is still being tested, and no commercial deployment exists, at least for primary-line service.⁹⁹ It is premature to make policy decisions based on the presumption that VoIP will make cable telephony a significant market force.¹⁰⁰

Moreover, even if cable telephony were pervasive, it still would not create a competitive marketplace. Cable competition would merely produce a duopoly. Such a duopoly would not drive prices to competitive levels nor produce high quality telephony with innovative features for consumers.¹⁰¹ ILECs and cable companies would have both the incentive and the ability to engage in coordinated behavior, raising prices above competitive levels. The high visibility of prices in the telephone market would make it difficult for the ILECs or cable companies to cheat on these price agreements. And because the ILECs and cable companies would be competing across multiple markets,

⁹⁶ *Id.* at pp. 26-27.

⁹⁷ *Id.* at p. 25, Figure V-4.

⁹⁸ *HAI Report* at p. 32.

⁹⁹ *Id.* at pp. 32; see also Fred Dawson, *Hold the Phone, Delivery of IP Voice Over Cable Posted Back*, March 2002 at 56.

¹⁰⁰ *HAI Report* at p. 38.

¹⁰¹ *Id.* at pp. 82-84.

they would be less likely to compete aggressively in one market for fear of retaliation in another market.¹⁰²

Thus, although competition from cable providers may be beneficial, it certainly will not be sufficient. There would, however, be less concern about a duopoly of end-to-end facilities-based providers of local services if competitors could rely on nondiscriminatory access to UNEs to provide service to their customers.¹⁰³

d) Wireless Is Not a Meaningful Alternative

Wireless service also is not a competitive alternative to wireline service for mass market customers. The Commission previously reached just this conclusion in evaluating PCS service in the BellSouth region.¹⁰⁴ In denying BellSouth's second application for section 271 authorization in Louisiana, the Commission explained that in order to be a competitive alternative, a service must be used to replace, not merely supplement, wireline service offered by the ILECs.¹⁰⁵ Today only 2.2% of all wireless customers use wireless phones as their only phone.¹⁰⁶ Indeed, the attraction of wireless service as a substitute for wireline service likely will be limited to a certain demographic slice of the market – young singles who are rarely at home.¹⁰⁷

In addition to the lack of evidence of significant demand for wireless services as a substitute for wireline services, technological and other barriers preclude such

¹⁰² *Id.* at p. 83.

¹⁰³ *Id.* at p. 84.

¹⁰⁴ *Application of BellSouth Corporation, et al. for Provision of In-Region, InterLATA Services in Louisiana*, Order, 13 FCC Rcd 20599 (1998) at ¶ 22 (*LA II 271 Order*).

¹⁰⁵ *Id.* at ¶ 31.

¹⁰⁶ Yuki Noguchi, *More Cell-Phone Users Cut Ties to Traditional Service*, WASH. POST, (Dec. 28, 2001) at p. E01.

¹⁰⁷ See TRAC, *Consumer Tips for Cutting The Cord*, available at <<http://www.trac.org/tips/wiretips.html>>.

substitution from occurring on a mass scale. Airwave spectrum is very limited, and zoning and other regulatory requirements often make it difficult for wireless carriers to build new cell towers.¹⁰⁸ According to a technical capacity analysis performed by HAI Consulting, existing and planned wireless technologies are incapable of serving the combined fixed wireless (currently served by wireline) and mobile demand for service.¹⁰⁹

As indicated in the *HAI Report*, a wireline subscriber generates about three times the busy-hour traffic of a wireless subscriber.¹¹⁰ Thus, for every wireline user that a wireless provider seeks to serve via fixed wireless services, it must devote three times the network capacity of a wireless subscriber. Because one fixed wireless customer on average displaces three mobile wireless customers, and the average local wireless service bill is higher per subscriber than the average local wireline bill, the opportunity cost of using spectrum to offer fixed services to a customer is substantial.¹¹¹

The current structure of the wireless industry provides another basis for skepticism that this platform will challenge the ILEC monopoly. The wireless industry is increasingly controlled by the ILECs. These firms do not want to cannibalize their land-line business. Therefore, they have no incentive to engineer their systems and market their services to provide direct substitution for landline networks.¹¹²

C. Broadband Services

The Commission has recently focused on a regulatory framework to promote the availability of broadband services in a trio of proceedings, including the *Broadband Non-*

¹⁰⁸ Yuki Noguchi, *supra* note 106.

¹⁰⁹ *HAI Report* at p. 38.

¹¹⁰ *Id.* at p.39.

¹¹¹ *Id.* at p. 42 (estimating that the opportunity cost to a wireless carrier is about \$100 per month per fixed wireless subscriber).

¹¹² *Id.* at p. 51.

*Dominance*¹¹³ and the *Broadband Framework*¹¹⁴ proceedings as well as the *UNE Triennial Review*. As detailed above, both business and residential customers use “broadband” services for various applications.¹¹⁵ Given the Commission’s recent focus on broadband, rather than discussing these high-speed services in the context of other business and residential services, WorldCom addresses broadband services separately.

1. Business Services

As noted, the Commission in the past has separated users of telecommunications services into two broad categories: the larger business market and the mass market, which includes both residential consumers and small businesses. For broadband services, however, these categories are too broad. As explained below, business customers – regardless of size – demand a higher quality of broadband services than that demanded by residential consumers. As a result, residential-grade services, even when available to small and medium enterprises (SMEs), small or home offices (SOHOs), or branch offices of larger enterprise customers, do not meet the needs of business customers.

Larger businesses often have numerous smaller business locations, “includ[ing] retail stores, automobile dealerships, travel agencies, bank branches, transportation and dispatch facilities, among others,” that require high-speed access to corporate data

¹¹³ *Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, CC Docket No. 01-337, Notice of Proposed Rulemaking (Dec. 20, 2001) (*Broadband Non-Dominance*).

¹¹⁴ *Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities*, CC Docket No. 02-33, Notice of Proposed Rulemaking (Feb. 15, 2002) (*Broadband Framework*).

¹¹⁵ WorldCom uses the term “broadband” to denote DSL and its equivalents, including any service from 200 kbps to three Mbps (or two DS-1s). See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket 98-146, Third Report, ¶ 9 (Feb. 6, 2002) (*Section 706 Third Report*) (defining advanced services as supporting speeds above 200 kbps). Higher speed services are treated herein as high capacity services, and are discussed above in Section II.A.

networks.¹¹⁶ Along with SMEs and SOHOs, these business users demand a level of security and reliability that cannot be met by residential offerings.¹¹⁷ For example, service outages that may be a mere nuisance for a residential consumer are likely to result in losses unacceptable to a business customer that is dependent on broadband services to conduct business.¹¹⁸ To meet these quality demands, providers offer “service level agreements” or other guarantees typically not demanded by residential users. Similarly, higher levels of security are required for the secure transmission of commercially sensitive information.¹¹⁹ Given these different demand patterns, the Commission must separately consider the alternatives available for business and residential broadband services.

a) DSL Remains The Option of Choice For Business Broadband Users

DSL remains the leading choice of broadband technology for business subscribers – 59% view DSL “as the most convenient technology to adopt.”¹²⁰ Thus, business subscribers represent a significant growth opportunity for DSL providers. Indeed, although business DSL represents only about 17% of the subscriber market worldwide, it accounts for 58% of total DSL revenues.¹²¹

¹¹⁶ Comments of Ad Hoc Telecommunications Users Committee at 7, CC Docket No. 01-337 (filed March 1, 2002) (Ad Hoc Broadband Comments).

¹¹⁷ *Id.* at 7-8.

¹¹⁸ *Id.* at 8.

¹¹⁹ *Id.*

¹²⁰ Michael Pastore, *Business Installations Will Lead DSL Providers*, available at <http://cyberatlas.internet.com/markets/broadband/article/0,,10099_932901,00.html>.

¹²¹ Press Release, Cahners In-Stat, “Business DSL Worldwide: The Buck Starts Here” (Dec. 3, 2001), available at <<http://www.instat.com/press.asp?ID=37&sku=TX0110SP>>.

Despite business customers' demand for DSL, incumbent LECs today do not offer business-grade DSL unbundled from Internet access services.¹²² Nor are there currently widespread competitive alternatives to the ILEC for these services. In fact, Ad Hoc's members report that viable competitive alternatives to incumbent LEC data services for "Category A" (defined as capacity of 12 DS-0 channels, *i.e.*, 760 kHz or less) and "Category B" (defined as capacity of at least one, but not more than four, DS-1s) were available at fewer than 10% of members' locations.¹²³

As discussed below, WorldCom and other competitive carriers seek to offer business-grade DSL services, but their ability to do so is completely dependent on the availability of unbundled network elements. For example, WorldCom offers an Enterprise DSL product to businesses that allows them to access WorldCom's frame relay and ATM services utilizing DSL.¹²⁴ In addition, WorldCom provides businesses with high-quality, reliable high-speed Internet access services.¹²⁵ WorldCom's business DSL products are designed to meet the needs of different businesses that demand high-speed access services. However, WorldCom cannot offer its innovative products to businesses without access to UNEs – especially the loop.¹²⁶

¹²² See Ad Hoc Broadband Comments at pp. 23-24 (incumbent LECs' refusal to unbundle DSL from Internet access services has prohibited low-volume business customers from cost effectively obtaining broadband services). The sole exception appears to be SBC's offering of its Remote Local Area Network, or "RLAN," service. As Ad Hoc notes, however, that service is provided on an extremely limited basis with only about 4,600 lines in service. See *id.* at 24 (citing SBC).

¹²³ *Id.* at 15.

¹²⁴ Declaration of Ian Graham, provided here as Attachment C (*Graham Declaration*) at ¶ 10.

¹²⁵ *Graham Declaration* at ¶ 11.

¹²⁶ See *id.* at ¶¶ 30-37.

b) Neither Cable Modem Nor Wireless Technologies are an Effective Substitute For Business-Grade DSL

i. Cable Modems

Cable modem service is not well-suited for most business customers for a number of reasons, including limitations in geographic availability as well as insufficient service quality, reliability, and security. Most cable companies target their buildouts towards residential areas; thus, cable-based high-speed Internet access is rarely available to business customers.¹²⁷ J.P. Morgan recently reviewed growth prospects for the business cable modem marketplace, and concluded that while growth percentages will be high, actual market penetration will be minimal compared to DSL for businesses. By 2006, J.P. Morgan predicts that 112,000 businesses will be served by cable modems, compared to 4,446,000 businesses served by DSL.¹²⁸

Cable modem service also suffers from service quality and reliability problems, stemming from its shared bandwidth architecture. In a business environment, where many users are on the same network at a peak time, cable modems lose signal strength. Shared networks also pose security risks to business customers. Without appropriately configured firewalls, cable modem users could see other users and their locations, and access any shared files simply by clicking on the "Network Neighborhood" icon on their computers.¹²⁹ Analysts have noted that "its variable speed, lack of vendor guarantees, and other reliability concerns have made cable modem service an unpopular choice for businesses."¹³⁰

¹²⁷ See, e.g., Tod A. Jacobs, J.P. Morgan Securities Inc., *Industry Analysis: Telecom Services 2001, A Comprehensive Long-Term Forecast of the U.S. Telecom Services Industry* (Nov. 2, 2001) at 32 (noting that the broadband business market "is largely expected to belong to DSL") (J. P. Morgan).

¹²⁸ *J.P. Morgan*, p. 33.

¹²⁹ Bradley Mitchell, *Computer Networking: DSL vs. Cable Modem Comparison*, About.com (last visited Feb. 22, 2002).

¹³⁰ Barbara Krasnoff, *Bet on Broadband*, SmallBusinessComputing.com (Nov. 29, 2001).

Even if cable modem service providers were to overcome these bandwidth, security, and access hurdles, other issues are hindering its deployment. For example, cable modem equipment is still largely unavailable for business networks. Cisco manufactures integrated cable modem routers for business use; however, these routers can only be used where the underlying cable modem services are compatible with the DOCSIS standard.¹³¹ Cable access to multi-tenant environments (typically found in commercial settings) also poses challenges to broadband market entry. Building owners typically control selection of the sole broadband provider – which often involves payment or other consideration to gain access to a building.¹³² As a result of these limitations, cable modem service is not a competitive alternative for broadband access to businesses.

ii. Wireless

Wireless mobile data services are not a significant threat to wireline services. Second generation mobile wireless services can support only modest data rates, typically about 10 kbps.¹³³ Although third generation services will offer data rates exceeding 144 kbps, these rates represent an overall radio channel data rate. Thus, the average per user rate will be much lower, probably between 50 kbps and 100 kbps.¹³⁴ As a result, capacity and service quality constraints make it unlikely that significant numbers of business broadband service users will switch to wireless services.¹³⁵

Fixed wireless suffers from similar constraints. At best, fixed wireless service providers have sufficient capacity to serve only 5-10% of wireline broadband subscribers

¹³¹ *Small Business Solutions*, Cable-modem.net (last visited Feb. 22, 2002).

¹³² Amy H. Blankstein, *How Fast Is Your Building*, SmallBusinessComputing.com (Jan. 1, 2001).

¹³³ *HAI Report* at p. 49.

¹³⁴ *Id.* at p. 50.

¹³⁵ *Id.*

in larger markets.¹³⁶ Moreover, in order to provide service, external antennas must be affixed to the building being served. The inability to gain access to buildings to install this equipment has hindered carriers' ability to provide fixed wireless service to many businesses. Until such problems are addressed, wireless data services will not constitute a viable alternative to business-grade DSL.

2. Residential Services

ISPs, the principal customers for residential-grade broadband services, have four potential options: incumbent LECs, competitive LECs, wireless providers, and cable companies.¹³⁷ As explained below, the only real option independent ISPs may have is to purchase high-speed services from competitive LECs, which cannot provide service without access to unbundled network elements from incumbent LECs.

a) *DSL*

Incumbent LECs provide DSL to ISPs – including the incumbent LECs' own ISP operations.¹³⁸ The ISPs, in turn, market, sell, and provide retail high-speed Internet access over a DSL platform directly to end-user customers.¹³⁹ While incumbent LECs

¹³⁶ *Id.* at p. 78.

¹³⁷ Nascent offerings by wireless and satellite providers are not viable alternatives for reaching the vast majority of residential customers. *HAI Report* at pp. 76-79.

¹³⁸ Incumbent LECs also provide these services to unaffiliated ISPs pursuant to their obligations under the FCC's longstanding *Computer II* and *Computer III* rules. *See generally, In the Matter of Amendment of Section 64.702 of the Commission's Rules and Regulations*, Docket No. 20828 (*Computer II*); *In the Matters of: Amendment of Sections 64.702 of the Commission's Rules and Regulations*, CC Docket No. 85-229 (*Computer III*).

¹³⁹ The ISPs' retail duties include provisioning consumer premises equipment (CPE) and wiring, providing customer service, and assuming sole responsibility for marketing, ordering, installation, maintenance, repair, billing, and collections vis-à-vis the end-user subscriber. *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability*, DD Docket No. 98-147, Second Report and Order, 14 FCC Rcd 19237 (rel. Nov. 9, 1999) (*Bulk DSL Order*) at ¶ 15. The incumbent LECs' ISPs also offer and provide email boxes, web storage space, domain name registration, search engine registration, and 24-hour technical support.

sell DSL to independent ISPs, most ILEC DSL lines are provided through the incumbents' ISP affiliate.¹⁴⁰ Indeed, independent ISPs, such as WorldCom's UUNET division, have had trouble negotiating fair terms with the ILECs.¹⁴¹ Competitive LECs that offer broadband services have arrangements with ISPs that are similar, though not identical, to those ISPs have with incumbent LECs. Competitive LECs like WorldCom and Covad, for example, provide DSL functionality either as a wholesale input to ISPs, or packaged with information services and sold as high-speed Internet access.¹⁴² Because there is no other last-mile alternative, competitive LECs depend on certain incumbent LEC-provided network elements, such as DSL-ready local loops, to provide broadband services.¹⁴³

Competitive LECs are falling further and further behind the incumbent LECs. According to the Commission's most recent Section 706 report, as of June 30, 2001, incumbent LECs controlled 93 percent of all ADSL lines, compared to only 7 percent for competitive LECs.¹⁴⁴ Although competitive LECs in the past have experienced positive subscriber growth, in the fourth quarter of 2001, they *lost* DSL customers.¹⁴⁵ At the same

¹⁴⁰ Between 78 and 87% of all ILEC DSL lines are provided to their affiliated ISPs. See Sue Ashdown, *Can America Compete With Bell Lobbying Armies*, INTERNET INDUSTRY MAGAZINE, Fall 2001 at pp. 74-75.

¹⁴¹ *Graham Declaration* at ¶¶ 23, 41; see also *California ISP Association v. Pacific Bell Telephone Co.*, Case No. 01-07-001, before the California Public Utilities Commission (filed July 25, 2001).

¹⁴² See *Graham Declaration* at ¶ 12; see also www.covad.com/companyinfo; Julia Angwin, *Covad Provides a Saga of Shakeout Survival*, WALL ST. J., Feb. 28, 2002 at B7 (explaining that Covad is beginning to sell DSL lines directly to small businesses).

¹⁴³ *Graham Declaration* at ¶¶ 30-37.

¹⁴⁴ *Section 706 Third Report* at ¶ 51.

¹⁴⁵ See TeleChoice DSL Deployment Summary — updated 2/11/02, available at <http://www.xdsl.com/content/resources/deployment_info.asp> (CLEC xDSL declined from a 2001 high of 539,415 lines in service in the third quarter to 484,060 in the fourth quarter); see also *North American DSL Market Reaches 5.5 Million, According to TeleChoice* (Feb. 12, 2002), available at <<http://www.xdsl.com/content/tcarticles/wp021202.asp>> (ILECs increased their fourth quarter share of xDSL lines in service by

time, incumbent LECs' DSL customer base continued to grow rapidly.¹⁴⁶ Without unbundled access to the network elements identified by WorldCom, competitive LECs cannot hope to compete with the incumbents in the provision of broadband services. CLECs' ability to provide DSL services to ISPs is critical to the continuing viability of independent ISPs,¹⁴⁷ particularly if the incumbent LECs succeed in their attempt to be relieved of their obligation to provide basic telecommunications services to unaffiliated ISPs on a non-discriminatory basis.¹⁴⁸

b) Cable Modem

Cable companies, such as AT&T Broadband and AOL Time Warner, offer combinations of Internet access (most often provided by an ISP affiliated with the cable company) and cable modem functionality (provided by the cable company) to residential end-user customers. However, certain factors make cable broadband services an inadequate alternative to incumbent LEC DSL, both for ISPs and competitive LECs.

First, cable companies have no general legal obligation to provide ISPs with nondiscriminatory access to underlying transport services.¹⁴⁹ Second, cable companies are not obligated to unbundle their broadband platforms or provide last-mile facilities to competitive LECs in order to allow them to offer broadband services to ISPs. Thus,

16% over the third quarter, while the CLEC sector as a whole contracted); *Section 706 Third Report*, ¶ 51, n.110.

¹⁴⁶ *Id.*

¹⁴⁷ *See Graham Declaration* at ¶¶ 40-41.

¹⁴⁸ *See Broadband Framework NPRM.*

¹⁴⁹ Because of merger conditions, AOL Time Warner is required to provide nondiscriminatory access to a limited number of unaffiliated ISPs. *See Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations by Time Warner Inc. and America Online, Inc., Transferors to AOL Time Warner Inc., Transferee*, Memorandum Opinion and Order, 16 FCC Rcd 6547 (2001) (*AOL Time Warner Merger Order*). Cable companies are not subject to obligations similar to those imposed on incumbent LECs in the *Computer II* and *Computer III* proceedings, however. As a result, very few independent ISPs serve customers over cable facilities.

competition from cable companies does not provide an adequate alternative to incumbent LEC broadband services.¹⁵⁰

c) Wireless and Satellite

Nascent offerings by wireless and satellite providers are not viable alternatives for reaching the vast majority of residential customers. As explained in the *HAI Report*, the high cost and delay associated with satellite-delivered broadband services, coupled with line-of-sight and other technical limitations, render it “at best an alternative suited mainly for customers in rural or other areas where no other broadband alternative is available.”¹⁵¹ Due to the restrictions discussed above, fixed wireless broadband services are not expected to offer a viable alternative for any but a small share of residential customers.¹⁵²

III. EFFECTIVE UNE RULES ARE ESSENTIAL TO REALIZING THE PRO-COMPETITIVE GOALS OF THE COMMUNICATIONS ACT

A. The Commission Should Adhere to the Framework Established in the Act

If the Commission is to realize the vision of robust competition that underlies the 1996 amendments to the Communications Act, it must ensure that its UNE rules enable rival carriers to compete with the incumbent LECs. Without meaningful access to UNEs, competition in the local market will grind to a halt. UNEs are therefore essential to achieving the Commission’s goals of competition, deregulation and consumer choice.

1. Little Intermodal Competition For Local Services Exists Today

The Commission will not be able to deregulate the incumbent LECs unless it first takes the steps necessary to allow competition to develop for local services. The incumbent LECs cannot be deregulated until they have shown that sufficient competition

¹⁵⁰ See *HAI Report* at p. 75 (noting that significant numbers of consumers may have access to only one supplier of broadband services).

¹⁵¹ See *id.* at p. 78.

¹⁵² *Id.*

exists to prevent them from exercising market power. This showing requires evidence that there are actual competitors providing service with ample capacity to serve the incumbent LECs' customers, thereby constraining the incumbents' ability to raise prices in the local market.

Competition in the local markets today depends on the ability of competitive LECs to obtain key UNEs in a reasonable and non-discriminatory manner and at cost-based rates, as required by the Act. The relevant data shows that wireline CLECs still depend almost entirely on at least some ILEC facilities to compete. In the residential and small business markets, there has been little competitive entry, and what there is relies heavily on ILEC facilities, typically through so-called "UNE-P" arrangements.¹⁵³ Even where there is a modicum of wireline facilities-based competition – in dense urban areas where economies of scale and scope make such competition possible – competitors still rely heavily on ILEC-supplied loop facilities to connect end users to the ILEC network.¹⁵⁴

Reliance on ILEC facilities is neither surprising nor discouraging: the telephone network is characterized by massive economies of scale and scope, and unless there is some way for competitors to share in those economies, it will be difficult, if not impossible, for competition to take root. And, while intermodal competition holds promise, it does not yet offer alternatives sufficient to limit ILEC market power in any meaningful way.¹⁵⁵ While the Commission may sensibly take steps to promote intermodal competition, it would be irrational for the Commission to act as if competitive alternatives to the ILECs already exist.

¹⁵³ See *infra* Section II.B.2.

¹⁵⁴ See *infra* Section II.B.3.

¹⁵⁵ See *HAI Report passim*.

2. UNEs Provide Many Benefits

Given the incumbent LECs' continued bottleneck control over local facilities, unbundling is necessary to promote customer choice, innovation, and efficient investment. No competitive company currently has the resources to build a ubiquitous, end-to-end, facilities-based network capable of competing with the incumbent LECs. Nor does any competitive provider currently have a customer base sufficient to justify such a build out. Thus, in the absence of UNEs, competitive LECs will be forced to rely solely on resale to provide their services. This would limit competitors to offering only those services offered by the incumbent LEC, thereby depriving consumers of meaningful choice in the market. In addition, resale also has proven not to be economically viable for most competitors in most markets. Access to UNEs, including UNE-P, expands consumer choice by allowing competitive LECs to concentrate on areas where they can differentiate themselves from the incumbents (*e.g.*, customer service and product innovation) while leasing underlying facilities from incumbent LECs.¹⁵⁶ UNEs are more important than ever given the difficulties competitive carriers currently are facing in raising the capital needed to deploy their own facilities.

Limiting competition to resale would also greatly reduce, if not eliminate, any incentive the incumbent LECs have to innovate. It was competitive pressure from the competitive data LECs, such as Covad and Rhythms, that encouraged the incumbent LECs to roll out DSL, for example.¹⁵⁷ These competitive data LECs combined UNEs obtained from incumbent LECs with their own facilities to introduce DSL and high-speed Internet access to a wide market. The incumbent LECs' own investment in DSL as a

¹⁵⁶ See, *e.g.* *Graham Declaration* at ¶¶ 38-41.

¹⁵⁷ See *Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunication Services*, CC Docket No. 01-337, Declaration of Daniel Kelley, filed as Attachment A to Comments of WorldCom, Inc. (March 1, 2002) at ¶ 8 (noting that competitive LECs pioneered the commercialization of DSL services).

retail product to provide Internet access service came largely as a response to the early success of the competitive data LECs.¹⁵⁸

In addition, UNEs promote efficient investment by allowing a competitive carrier to reach customers in locations where demand is not yet sufficient to justify the investment needed for the carrier to build out its own network. In this way, UNEs allow end users outside of the most densely populated areas to enjoy the benefits of competition.

3. The Commission Should Continue to Apply the Standards Adopted in the *UNE Remand Order*

The Act requires an incumbent LEC to provide unbundled access to a non-proprietary network element if failure to provide access to that element would “impair” the requesting carrier’s ability to provide the service that it seeks to offer.¹⁵⁹ In interpreting this statutory requirement, the Commission should continue to apply the impairment standard established in the *UNE Remand Order*. As the Commission correctly concluded in that order, failure to provide access to a non-proprietary element “impairs” a requesting carrier if “lack of access to that element materially diminishes a requesting carrier’s ability to provide the services it seeks to offer.”¹⁶⁰ This standard properly focuses on the competitive consequences of making an element available. It also takes account of the distinction between “impair” and “necessary” that Congress incorporated into the statute.¹⁶¹ Finally, it makes little sense to alter the existing standard

¹⁵⁸ The ILECs’ continuing deployment of DSL today is also a response to cable modem service.

¹⁵⁹ 47 U.S.C. § 251(d)(2)(B).

¹⁶⁰ *UNE Remand Order* at ¶ 51.

¹⁶¹ In adopting the current “impair” standard, the FCC correctly rejected suggestions from the ILECs, which had proposed that the “impair” standard incorporate the strict “essential facilities” standard used in antitrust analysis. But, as the Commission understood, any claim that “impair” should mean “necessary” or “essential” fails to honor the distinction

now, given that is currently subject to judicial review by the U.S. Court of Appeals for the D.C. Circuit. Continuing to apply the current standard (if it passes judicial muster), or changing it only as required to conform with court rulings (if it does not), would lead to greater certainty and would minimize the likelihood of further appeals and challenges.

In the *NPRM*, the Commission asks whether cost should be afforded less weight than the other factors the Commission has traditionally considered in making its impairment analysis.¹⁶² To the contrary, cost is perhaps the most important factor forcing CLECs to depend on ILEC facilities notwithstanding all of the obvious commercial problems such reliance entails. With enough money, CLECs could in theory duplicate any ILEC facility. But because of the scale and scope economies that characterize the telecommunications industry, no one would sensibly fund such construction; nor would it be socially useful. Unless cost is taken into consideration, impairment analysis will fail to account for the single most important factor that forces CLECs to depend upon ILEC facilities.

As demonstrated below, CLECs' ability to offer the services their customers demand will be "impaired" (as that term was defined in the *UNE Remand Order*) unless they can obtain nondiscriminatory access to UNE-P, unbundled loops, subloops, transport, switching, network interface devices, signaling networks and call-related databases, and operations support systems – all of which are non-proprietary¹⁶³ – at cost-based rates.

Congress drew between access to proprietary elements, where competitors had to show that access to the element was "necessary," and access to other elements, where the lesser "impair" standard applied. In giving meaning to the lesser standard Congress intended to apply for non-proprietary elements, the Commission correctly focused on competitive consequences that were material, but not so extreme as to make access to the element "necessary."

¹⁶² *NPRM* at ¶ 19.

¹⁶³ An element is "proprietary" if it is protected by patent, copyright or trade secret law. See *UNE Remand Order* at ¶ 35. Incumbent LECs must unbundle those proprietary

Under the standard established in the *UNE Remand Order*, the Commission in the past also has considered whether an unbundling obligation is likely to: (1) encourage competitive LECs to enter the local market rapidly and serve the greatest number of consumers; (2) advance the development of facilities-based competition by competitors, and encourage investment and innovation in new technologies and new services by both incumbent LECs and competitive LECs; (3) reduce regulation of UNEs as alternatives to the incumbent LECs' network elements become available in the future; (4) provide certainty in the marketplace that will allow new entrants and fledgling competitors to develop national and regional business plans and bring the benefits of competition to the greatest number of consumers; and (5) be administratively practical to apply.¹⁶⁴ These factors should be considered to permit further unbundling, even if competitors are not impaired. But, given Congress's focus on impairment, these factors should not be used to "trump" impairment and deny carriers access when they are impaired. All of these factors weigh in favor of providing competitive carriers with unbundled access to the network elements discussed below.

4. The Commission Should Reject Attempts to Impose Additional Impediments to Competitive Carriers' Ability to Obtain and Utilize UNEs

The Commission has sought to provide new entrants with the regulatory certainty they need as they devise their entry strategies, develop long-term business plans and attempt to raise capital. For example, in the *Local Competition Order*, the Commission provided a list specifying the network elements that competitive carriers were entitled to obtain from incumbent LECs pursuant to section 251(c)(3). Competitive carriers relied

elements that are "necessary" to competitors. 47 U.S.C. § 251(d)(2)(A); *UNE Remand Order* at ¶ 29.

¹⁶⁴ *UNE Remand Order* at ¶ 27.

on this list in determining the best course for entering – and competing in – the local telecommunications business.

The incumbent LECs have taken every opportunity to undermine the certainty the Commission has tried to provide, however. They intentionally ignore or misinterpret Commission rules, relentlessly challenge Commission orders through litigation and seek to revise Commission rules through legislation. The incumbent LECs now attempt to limit the availability of UNEs by arguing for geographic, technical and use restrictions on UNEs, as well as a new service-specific impairment standard. If these arguments prevail, the incumbent LECs will have succeeded in making UNEs unavailable as a practical matter.

In the sections below, WorldCom explains why the FCC should reject the incumbent LECs' attempts to impose use and geographic restrictions on UNEs, and should not conduct a service-specific impairment test. Technical restrictions are discussed in the context of individual UNEs, as are attempts to exempt new facilities and services from the unbundling rules.

a) The Commission Should Not Impose Use Restrictions on UNEs

The Act broadly commands that the incumbent LECs must “provide, to any requesting telecommunications carrier for the provision of a telecommunications service, nondiscriminatory access” to the individual elements of their networks.¹⁶⁵ Thus, the only restriction Congress imposed on the use of UNEs was to require that they be utilized “for the provision of a telecommunications service.”¹⁶⁶ As long as a competitor uses the leased element to provide a telecommunications service, the FCC cannot further limit the

¹⁶⁵ 47 U.S.C. § 251(c)(3).

¹⁶⁶ *Id.*

uses to which the carrier puts those elements.¹⁶⁷ As the Commission recognized in the *Local Competition Order*, while “[a] single network element can be used to provide many different services . . . Section 251(c)(3) does not impose any service-related restrictions or requirements on requesting carriers in connection with the use of unbundled network elements.”¹⁶⁸

Congress's intent to allow unfettered use of unbundled network elements is equally clear in the definition of “network element” itself. Congress defined that term broadly, to include “a facility or equipment used in the provision of a telecommunications service,” including all “features, functions and capabilities that are provided by means of such facility or equipment.”¹⁶⁹ As the Commission correctly understood when it issued the *Local Competition Order*, these two provisions in conjunction make clear Congress's intention that competitors should have the ability to use an unbundled telephone facility to provide any “capability” that facility is capable of providing.

The ILECs nevertheless have urged the Commission to reverse course and adopt the contrary interpretation of these provision, insisting that the Commission should restrict the kinds of services that competitors can provide through leased facilities. In their view, section 251(d)(2) gives the FCC the authority to limit the uses to which

¹⁶⁷ Since Congress expressly imposed only one use restriction – limiting the availability of UNEs to “the provision of telecommunications service” – it must be assumed that Congress did not intend for the Commission to devise additional restrictions further limiting the use of UNEs beyond the statutory text. *See, e.g., Halverson v. Slater*, 129 F.3d 180, 186-187 (D.C. Cir. 1997) (limited language of delegation of authority to an administrative agency is fairly read to confine the scope of the delegation to the limited terms of the statute).

¹⁶⁸ *Local Competition Order* at ¶ 264; *accord, UNE Remand Order* at ¶ 484. The ruling from the *Local Competition Order* was codified in 47 C.F.R. § 51.307(c) (requiring incumbent LECs to provide access to UNEs “in a manner that allows the requesting telecommunications carrier to provide any telecommunications service that can be offered by means of that network element”); and 47 C.F.R. at § 51.309(a) (prohibiting incumbent LECs from imposing restrictions on requesting carriers’ use of UNEs).

¹⁶⁹ 47 U.S.C. § 153 (29).

unbundled network elements may be put. But that provision does no such thing. By its terms, section 251(d)(2) requires the FCC to determine *which* elements should be made available for lease, but says nothing at all about the uses to which competitors may put that element once they have leased it. The Commission got it right the first time: use restrictions are prohibited by the plain terms of the Act, and there is “no statutory basis upon which [the Commission] could reach a different conclusion for the long term.”¹⁷⁰

Use restrictions are not only unlawful, they are also anti-competitive. As the Commission has repeatedly found, the great advantage of unbundled network elements for competitors and for competition is that a single element can be used to offer a variety of services, allowing competitors to use an incumbent LEC’s network elements to offer services different from those offered by the incumbent. By depriving competitors of their ability to make full use of the UNEs they obtain from the incumbent LECs, use restrictions would undermine the pro-competitive goals the unbundling provisions of the Act were designed to achieve.

Any rule that would allow competitors to use leased facilities for some purposes, but not for others, while the ILEC can use the same facility for all purposes, would place competitors at a significant disadvantage. Restricting the uses to which competitors can put network elements makes it impossible for them to achieve the same economies of scale and scope as the incumbent,¹⁷¹ and thereby threatens to make leasing uneconomical for *any* service. No competitor could economically operate two redundant sets of facilities – one leased for services when the unbundled element has been approved for particular services, and one owned and operated in some other way for uses that have not been approved.

¹⁷⁰ *Local Competition Order* at ¶ 356.

¹⁷¹ The ability to use the same facilities to provide a multiplicity of services contributes significantly to the incumbent LECs’ ability to achieve the economies of scale and scope that are so critical to their success.

Use restrictions would also prove nearly impossible to administer. A service-by-service use restriction would inevitably draw competitors, incumbents and regulators into a series of endless disputes about which uses were approved and which not, disputes about definitions of whether a given practice is within a permitted “service,” and disputes about whether new services offered with leased facilities should or should not be permitted. The regulatory morass that any use restriction would entail is the very opposite of the deregulatory approach proposed by the Commission in this proceeding.

Similarly, a service-by-service use restriction would stifle innovation. Currently, market forces push competitors to think of new services to offer through existing network elements. This, in turn, spurs the incumbents to roll out new services. If service-by-service unbundling were mandated, these competitive benefits would be replaced by regulatory proceedings and endless litigation. Before offering a new service using an incumbent LEC facility, a competitor first would have to obtain a ruling from the FCC that, without access to the UNEs it needs, the competitor would be impaired in its ability to offer the new service, or that other factors either did or did not permit unbundling. This process would deprive competitors of any first-mover advantage they might gain by developing a new service, because a competitor planning to offer a new service using UNEs leased from the incumbent LEC would have to reveal its plans to the incumbent to gain permission to use the necessary UNEs. In addition, a service-by-service impairment analysis would almost certainly result in disputes between competitors and incumbents over what constitutes a new service versus a previously approved service. As a result, marketplace competition would be replaced by interminable regulatory proceedings. Any rule that encourages such regulatory gamesmanship – indeed, virtually requires it – is profoundly unwise.

Moreover, because the same element can be used for a variety of services, any use restrictions adopted as a result of a service-by-service impairment analysis would have to

be accompanied by a complex administrative prophylactic rule to guard against impermissible uses of the facility. Use restrictions are inevitably difficult, if not impossible, to administer, and can only have the effect of creating needless administrative wrangling that will assure that the elements are not used even for their “permitted” purposes.

The Commission need not speculate about the anti-competitive nature of use restrictions. Its one attempt at such a restriction already has proven disastrous to competition. The Commission has departed from its carefully-reasoned analysis in the *Local Competition Order*, and imposed temporary restrictions on competitors’ use of EELs. Specifically, the Commission has allowed competitors to lease EELs at cost-based rates only if they use them to provide a “significant amount of local exchange service.”¹⁷² Although the Commission in its *Supplemental Order Clarification* established three “safe harbors” designed to assure that EELs would be used to provide a significant amount of local service, these safe harbors are virtually impossible to satisfy as a practical matter.¹⁷³ As a result, when competitive carriers using their own switches need to use incumbent LEC transmission facilities to reach their customers, they usually have to purchase special access services, which provide the same functionality as EELs, but at a much higher price.¹⁷⁴

As with any other use restriction, the EELs restriction plainly violates the 1996 Act. Like any use restriction, it also unnecessarily prevents competitors from making use of facilities in the same flexible way that the ILECs themselves use facilities, and so

¹⁷² *Supplemental Order Clarification* at ¶ 8.

¹⁷³ See, e.g., *ex parte* letter from Chuck Goldfarb, MCI WorldCom, to Mr. Larry Strickling, FCC, CC Docket No. 96-98 (March 10, 2000).

¹⁷⁴ See *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Supplemental Order*, 15 FCC Rcd 1760 (1999) at ¶ 4 (prohibiting long distance carriers from obtaining existing EELs in lieu of higher-priced special access services).

harms competition and deprives consumers the advantages competition would bring. And, like any use restriction, it has proven nearly impossible to administer effectively. Specifically, the restriction on EELs has eliminated virtually all uses of loop-transport combinations. This result is anti-competitive and cannot be allowed to stand. The Commission should therefore take this opportunity to withdraw the temporary restrictions on the use of EELs.

The incumbent LECs have sought to undercut competitive carriers by unilaterally placing use restrictions on other UNEs as well. For example, Verizon has taken the position that, when ordered as a UNE, the line information database (LIDB) can be used only to provide local service. Verizon's attempt to impose this use restriction on LIDB is particularly outrageous because the designation of LIDB as a database that must be unbundled was made with the knowledge that the most prevalent use of LIDB is to provide access services.¹⁷⁵ Verizon's attempt to impose a use restriction on LIDB effectively amounts to an effort to eliminate its obligation to provide LIDB as a UNE. The Commission should reject this attempt, and all other attempts, by the incumbent LECs to impose use restrictions on the UNEs they provide to competitors pursuant to section 251(c)(3) for telecommunications services.

In sum, it would both unlawful and unwise for the Commission to impose use restrictions on UNEs.¹⁷⁶ Consistent with the Act, competitive carriers should be allowed to use UNEs to provide any telecommunications service, regardless of whether it is local, long-distance or broadband.¹⁷⁷

¹⁷⁵ LIDB is used to verify the billing telephone number for credit card calls. Given that the vast majority of credit card calls are toll calls, (*i.e.*, long distance calls) it would defeat the purpose of LIDB to limit its use to local services.

¹⁷⁶ *Local Competition Order* at ¶¶ 356, 385, 447-449; *see also Supplemental Order Clarification*, Dissenting Statement of Commissioner Furchtgott-Roth at 4-5.

¹⁷⁷ *See, e.g., Association of Communications Enterprises v. FCC*, 235 F.3d 662 (D.C. Cir. 2001) (*ASCENT*) (rejecting arguments that the incumbent LECs' obligations should not

b) The Commission Should Not Employ a Service-Specific Impairment Analysis

In the *NPRM*, the Commission asks about one kind of use restriction in particular: a restriction that would result from a service-specific impairment analysis.¹⁷⁸ Such a use restriction suffers from all of the same failures as any other use restriction discussed in the previous section: it plainly violates the Act, and would lead to anti-competitive results. In particular, as stated above, section 252(d)(2) requires the Commission to consider “impairment” in determining which elements to unbundle, but it plainly does not allow the Commission to consider impairment in considering which services a competitor should be allowed to offer through an unbundled network element.

In addition to all of the defects described above, service-specific impairment analysis would be completely pointless. If a particular network element is generally available only from the incumbent LECs for one use, that network element will be generally available only from the incumbent LECs for other uses as well. Thus, for example, if requesting carriers are impaired in their provision of local exchange service without unbundled access to the incumbent LECs’ local loop and transport facilities because there are few if any alternatives in the marketplace,¹⁷⁹ then few alternatives exist for carriers seeking to use those same facilities to provide exchange access or other telecommunications services.

Alternatives to a particular element either are available or they are not. The service being provided is completely irrelevant to the analysis.¹⁸⁰ It therefore would be

extend to their provision of “advanced services” and concluding that such services should be treated the same as all other telecommunications services).

¹⁷⁸ *NPRM* at ¶ 40.

¹⁷⁹ See *UNE Remand Order* at ¶¶ 181, 332-333.

¹⁸⁰ For example, if a carrier needs an incumbent-LEC provided EEL to connect its local switch to a customer location, it will need exactly the same line to connect the same customer location to its long-distance switch.

pointless for the Commission to engage in separate impairment inquiries for each service that can be provided using a given network element. The only result would be a needless waste of the administrative resources needed to conduct multiple inquiries leading to the same inexorable conclusion: that the lack of access to a network element for which no alternative exists impairs a requesting carrier's ability to offer *any* telecommunications service using that network element.¹⁸¹ Congress could not have envisioned that the Commission would engage in such a wasteful inquiry.¹⁸²

i. The Commission Should Not Create a "Broadband Exception"

For all of the reasons explained above, the Commission should reject attempts by the incumbent LECs to create a "broadband exception" to their unbundling obligations.¹⁸³ The incumbent LECs have argued that section 251 does not authorize the FCC to require unbundling of elements used to provide broadband services because that market is competitive.¹⁸⁴ This argument suffers from two fatal flaws. First, as explained above, the market for broadband services is *not* competitive.¹⁸⁵ Moreover, even if the retail market for high-speed Internet access or for broadband business services were competitive, that would not affect the incumbent LECs' unbundling obligations.

¹⁸¹ *NPRM* at ¶ 40 (noting that a service-specific analysis would impose additional administrative burdens on both the Commission and on carriers).

¹⁸² *See American Bankers Ass'n v. National Credit Union Administration*, 271 F.3d 262, 267 (D.C. Cir. 2001) (decision-makers must be "guided by a degree of common sense as to the manner in which Congress is likely to delegate a policy decision to an administrative agency") (quoting *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 121 (2000)).

¹⁸³ *See ASCENT*.

¹⁸⁴ *See Brief of Petitioner, USTA v. FCC*, Nos. 00-1012, 01-1075, 01-1102 & 01-1103 (D.C. Cir. 2001)

¹⁸⁵ *See also Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, CC Docket No. 01-337, Comments of WorldCom, Inc. at 11-22 (March 1, 2002).

The Act requires the Commission to consider whether failure to provide a requesting carrier with access to a network element would impair that carrier's ability to provide the telecommunications "*it seeks to offer*."¹⁸⁶ The ability of some *end users* to obtain broadband (or broadband-related) services from cable or other providers has no bearing on competitive *carriers'* ability to obtain network elements from those providers. As noted above, cable providers, for example, have no general obligation to provide unbundled access to their broadband facilities, and, in fact, do not provide such unbundled access to competitive carriers. If the Commission were to relieve incumbent LECs of their obligations to provide unbundled access to the network elements needed to offer broadband services, competing carriers would have *no* alternatives for obtaining the inputs they require, thus "impairing" their ability to provide the services they "seek to offer." If a CLEC needs to use the ILEC's copper loop to provide voice services, it needs the same loop to provide broadband services. The fact that the loop is used to provide two different services is completely irrelevant to the question of whether the CLEC has some alternative to using the ILEC loop.

5. Any Attempt to Impose a "More Granular Statutory Analysis" Must Be Guided By Certain Bedrock Principles

The Commission seeks comment on whether it should adopt a more "granular" impairment analysis for determining which network elements should be unbundled. Among other approaches, the Commission asks whether it should consider the availability of UNEs based on geographic considerations (*e.g.*, by MSAs, density zones, or other delineations); type of facility (*e.g.*, circuit-switched versus packet-switched); level of capacity (*e.g.*, DS-1 - DS-3 versus OC-3 - OC-96 dedicated transport services); type of end user (*e.g.*, business versus residential); or temporal or other triggers (*e.g.*,

¹⁸⁶ 47 U.S.C. § 251(d)(2)(B) (emphasis added).

sunset dates, collocation-based triggers, etc.).¹⁸⁷ If the Commission determines that it is appropriate to consider the availability of UNEs based on one of the more granular approaches listed above, its analysis must be guided by the principles identified below.

First, any impairment analysis must be based on meaningful empirical market evidence that is “sophisticated and refined.”¹⁸⁸ For example, the mere existence of a carrier offering service using its own transmission facilities to serve customers in a certain area does not mean that the carrier has sufficient excess capacity to sell transport to other carriers seeking to serve the same location. Similarly, evidence that a carrier has leased collocation space in a particular location does not demonstrate that the carrier can viably serve customers with that facility.

Of course, the difficulty with obtaining such meaningful empirical evidence is that the incumbent LECs are the parties with the greatest access to the relevant data. For example, the incumbent LECs have data regarding their own facilities; requesting carriers’ facilities, interconnections, and collocations; leased UNEs; and requesting carriers’ purchase of special access and other services. However, the incumbent LECs have no incentive to make available to the Commission any data that does not support their positions. If the Commission is to perform a more granular impairment analysis, it therefore must use its authority to compel the ILECs to provide all the data needed to ensure that the analysis is sufficiently “sophisticated and refined.”¹⁸⁹

Second, the Commission must ensure that any geographically granular analysis does not undercut the ability of carriers to serve the mass market. If the Commission relies on geographic analysis to carve out exceptions to UNEs in high density areas,

¹⁸⁷ *NPRM* at ¶¶ 34-46.

¹⁸⁸ *See id.* at ¶ 34.

¹⁸⁹ There may be some situations in which the Commission also must compel requesting carriers to provide data.

without regard to whether those UNEs are being used to serve mass market customers or customers with more specialized needs, then it will place at risk the ability of carriers to serve mass market customers, for whom there will not be a facilities-based option in the foreseeable future. The Commission should adopt nationwide rules regarding UNEs, and not defer any geographic analysis to the states. Failure to adopt nationwide rules would substantially raise the costs associated with national marketing campaigns and potentially eliminate the possibility of ubiquitous competitive services.¹⁹⁰

Third, the impairment analysis must yield bright-line unbundling rules that can be efficiently applied *up front*, when CLECs are making their facilities deployment and market launch decisions. Impairment analyses that are administratively expensive or time consuming to implement, or that introduce uncertainty about the future availability of essential inputs, unnecessarily raise costs for CLECs. This leads to increased prices for consumers and harms competition. Absent certainty about the ongoing availability of essential inputs, carriers should not be expected to expend their limited capital resources to undertake product launches.

Similarly, impairment analyses that give incumbent LECs discretion over the availability of essential inputs inhibit competition. For example, any analysis that allows the incumbent LEC to determine whether a new service meets the impairment standard (or whether a request for a UNE violates a use restriction) will have a chilling effect on competition.¹⁹¹ Other triggers, such as those that would condition availability on future

¹⁹⁰ Where more detailed and refined state-specific market evidence so warrants, however, state regulators should be able to expand ILEC requirements to offer UNEs in their jurisdictions beyond those set by the Commission. The proposition does not work, in the reverse, however, because the scope and scale economies associated with mass marketing and nationwide service offerings extend beyond state boundaries. Thus state regulators should not be able to restrict access to UNEs that are available under the federal rules.

¹⁹¹ The current experience with EELs demonstrates this point. Except in a minority of cases where state regulatory commissions have interceded, ILECs have made themselves the initial interpreters of the Commission's safe-harbor rules and have used these rules to

actions that cannot be predicted today (*e.g.*, attaining particular loop provisioning standards), would also harm competition. The current system of periodic review is a far better approach because it permits requesting carriers to make business plans based on the certainty that specific UNEs will be available for some time period, preferably five years.

6. The Commission Should Not Adopt an Automatic Sunset Date

The Commission also seeks comment on whether it should establish a sunset date for UNE availability.¹⁹² WorldCom views a sunset provision as contrary to the statute, unnecessary and counterproductive. In determining what network elements should be unbundled, the Act requires the Commission to consider whether “the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer.”¹⁹³ This statutory mandate does not lend itself to sunset provisions that are inherently based on future predictions.

The Commission simply cannot predict today that at some defined future date, lack of access to UNEs will not impair carriers' ability to offer service. No UNE should be eliminated unless it is unequivocally clear that alternatives are available and that competitive carriers will not be impaired by the removal of the UNE from the national list. Moreover, automatic sunset dates would reduce incumbent LECs' incentives to comply with their statutory obligations. In fact, an automatic sunset date would provide

deny CLECs access to EELs in almost all circumstances. *See, e.g.*, Letter of Jonathan Askin, General Counsel, ALTS to Jodie Donovan-May, Common Carrier Bureau, FCC, CC Docket No. 96-98 (Dec. 22, 2000); *see also* Petition of ITC^DeltaCom Communications, Inc. for Waiver of Supplemental Order Clarification, CC Docket No. 96-98 (Aug. 16, 2001); *see also* Petition of WorldCom for Waiver of Supplemental Order Clarification (Sept. 12, 2000).

¹⁹² *NPRM* at ¶ 45.

¹⁹³ 47 U.S.C. § 251(d)(2)(B).

incumbent LECs with an incentive to strategically delay the availability of UNEs until the sunset date arrives.¹⁹⁴

7. Competitors Must Be Able to Lease UNEs at TELRIC-Based Rates

In paragraph 24 of the *NPRM*, the Commission seeks:

comment on whether we should modify or limit incumbents' unbundling obligations going forward so as to encourage incumbents and others to invest in new construction. . . . Additionally, we seek comment on whether, in lieu of limiting incumbents' unbundling obligations to encourage investment in new facilities, we might clarify or modify our pricing rules to allow incumbent LECs to recover for any unique costs and risks associated with such investment. Would such an approach adequately encourage new construction?

These questions go to the core of the economic theory and policy analysis underlying the UNEs requirement. Will imposing restrictions on competitors' access to essential network facilities, or charging above-cost rates for those facilities, foster *efficient* investment and ultimately expand choices and/or cut prices for consumers, or will they have the opposite effect?

Recently, Professor William J. Baumol filed a concise paper that directly addresses these issues.¹⁹⁵ In his paper, Professor Baumol describes the analytical

¹⁹⁴ For instance, in 1998, WorldCom filed two complaints to enforce the Bell Atlantic/NYNEX merger conditions, which were set to sunset on Aug. 14, 2001. *See, e.g., MCI Telecommunications Corp. and MCI Metro Access Transmissions Services, Inc.*, File No. E-98-12 (Aug. 18, 2000) (*TELRIC Complaint*) and *MCI Telecommunications Corp. and MCI Metro Access Transmissions Services, Inc.*, File No. 98-32 (December 3, 2001) (*Performance Standards Complaint*). The TELRIC complaint was not decided until Aug. 18, 2000 – three years into the four-year period of the conditions – and the performance standards complaint was not decided until Dec. 3, 2001, six months after the expiration of the merger conditions. There was absolutely nothing to ensure, or even encourage, the merged entity's compliance with the conditions while the section 208 complaints to enforce the conditions were pending, and no other enforcement action was being taken.

¹⁹⁵ *See Deployment of Broadband Networks and Advanced Telecommunications*, NTIA Docket No. 011109273-1273-01, Comments of William J. Baumol, "Response to the NTIA Request for Information on Broadband," *available at*

framework that underlies the Telecommunications Act of 1996 and the Commission's implementation of the Act to date – a framework that fosters efficient investment by incumbents and new entrants alike by basing input rates on forward looking economic cost, including risk-related costs. He also addresses the fallacies underlying arguments made by incumbent LECs and others that abandoning the existing regulatory framework will foster additional investment in facilities. These parties argue for deregulation before there is competition, and for allowing incumbent carriers to set wholesale rates for input elements above forward-looking cost when their competitors still lack viable alternatives to those elements. The consequences of such a course would be reduced investment by carriers, which would result in less choice and higher rates for consumers.¹⁹⁶

i. Monopoly Providers Lack the Incentive to Invest in New Facilities or Services

It is wrong to assume that carriers that enjoy monopoly power have the same incentives to make pro-consumer decisions, as they would have in effectively competitive markets. Providers in effectively competitive markets face market pressures to make output, investment, and pricing decisions that serve the consuming public well. They have no incentive to restrict output or investment because they lack the ability to raise prices to exploit artificial scarcity and they have no monopoly markets to protect from “cannibalization” by new products. Thus, in effectively competitive markets there is no need for regulatory intervention. In contrast, carriers that retain significant monopoly power have the incentive to restrict output and investment to create artificial scarcity and to minimize the risk of cannibalizing existing product offerings that are selling at prices above what they would be able to charge in a competitive market. Furthermore, as Professor Baumol explains, a

<<http://www.ntia.doc.gov/ntiahome/broadband/comments4/Baumol.htm>> (*Baumol*).

¹⁹⁶ The following discussion basically tracks Professor Baumol's key arguments.

firm's incentive to restrict investment in [monopoly] markets is further enhanced where such investment can be expected to render current plant and equipment obsolete. There, the dominant incumbent, immune from material competitive pressures, can be expected to resist such change by keeping its investments to a minimum, protecting the earning power of its old equipment until and if management's hand is forced by the incursion of substantial rivals whose more modern facilities threaten the business of the incumbent.¹⁹⁷

This behavior is evident in telecommunications markets today. As explained above, although DSL technology has been available for many years, ILECs initially chose not to deploy it at all because of a fear that it would cannibalize their T-1 service offerings. It was only when competitive LECs such as Covad, Rhythms, and NorthPoint attempted DSL entry and cable companies offered cable modem competition that ILECs began to deploy DSL technology throughout their networks. Even when they began offering DSL services, ILECs restricted their offerings to those designed for residential customers, ensuring that business customers would not take DSL services in lieu of T-1s. Only CLECs offer business-grade DSL, and the ILECs now seek to eliminate these offerings by removing unbundling requirement and pricing regulations.

ii. Monopoly Providers Lack the Incentive to Set Prices Competitively

It is also wrong to assume that monopolists that are allowed to set above-cost rates and generate monopoly profits will have an incentive to increase output and investment and better serve the consuming public. Basing regulatory policy on this fallacy will have harmful consumption and investment effects. Allowing a monopoly provider of an input to raise wholesale prices above TELRIC cost, will result in higher retail costs for consumers. Moreover, higher retail prices will reduce consumer demand. Especially in markets such as broadband, where demand is weak at current retail rates

¹⁹⁷ *Baumol* at p. 2.

(less than four percent of customers with access to DSL or cable modem service currently subscribe), raising those rates will further weaken demand.¹⁹⁸

Telecommunications networks are characterized by strong economies of scale and scope, especially in outside plant (*i.e.*, loop and transport). Wherever the economies and investment costs associated with a particular network element are significant, it will be far more costly for CLECs to replicate the network element than for the ILEC to configure the capacity of that element in its network to handle total ILEC and CLEC demand for the element. CLECs therefore will be impaired in their ability to offer service if they cannot obtain a network element they require from the ILEC. In this situation, the efficient investment decision for that network element, from society's perspective, is to have the incumbent build the facilities and provide unbundled access at rates that fully compensate the ILEC for all costs, including risk-related costs. As discussed below, TELRIC is the appropriate costing/pricing methodology to use. The outcome of such mandatory unbundling and pricing is to create a wholesale input market that mimics competitive wholesale markets of the sort that exist for long distance telecommunications.

In the absence of regulatory directives, however, monopoly ILECs will choose either not to participate in a wholesale market or to sell only at monopoly rates that raise the costs for all competitors. This behavior does not demonstrate that TELRIC-based rates are too low for the ILEC to earn a competitive profit from their network investments; it only demonstrates that ILECs prefer to earn monopoly profits. So long as UNE rates are set at the cost-based levels that prevail in competitive markets, investment incentives will be consistent with the requirements of economic efficiency.

¹⁹⁸ See National Telephone Cooperative Association, *NTCA 2001 Internet/Broadband Availability Survey Report* (Dec. 2001) at p. 3, available at <http://www.ntca.org/leg_reg/white/2001bb_survey.pdf>.

*b) TELRIC provides the Correct Measure of the Incumbent
LECs' Costs*

TELRIC methodology takes into account the investment needed to serve both ILEC and CLEC use. It takes into account the economies of scale and scope inherent in the ILECs' networks. It also takes into account the risk associated with building a network to serve both ILEC and CLEC use. Thus, there is no need for a separate, additive calculation of the depreciation and risk cost associated with serving CLEC use.

TELRIC methodology takes risk into account in two ways – through the depreciation rates used for facilities and through the risk-based cost of capital used. Thus, TELRIC-based rates already incorporate the risk associated with building a network for CLEC as well as ILEC use. In fact, CLECs' use of the network lowers ILEC risk. By basing UNE rates on TELRIC and providing the correct pricing signal to CLECs about their lease-investment decisions, the current system ensures that CLECs are not encouraged to make inefficient facilities investments (and leave the ILEC network) based on a comparison between the costs of self-provisioning versus an inflated lease rate. This reduces the risk of ILEC investment being stranded by CLECs making inefficient investments in their own facilities. It also highlights an inconsistency in much ILEC advocacy that claims competitive entry adds to their risk. On one hand, ILECs complain that the unbundling requirement forces them to undertake substantial additional investment. On the other hand, ILECs complain that CLEC entry places them at great risk of stranded investment. In fact, ILECs can minimize the risk of stranded investment by setting TELRIC-based rates that allow CLECs to make efficient investment decisions. ILECs, being familiar with underlying network costs, will know where scale and scope economies are too substantial for CLECs to make efficient investments. TELRIC also ensures that the ILECs will be sufficiently compensated for any additional investments they make in their networks to provide UNEs.

ILECs have long been champions of incremental cost pricing for their competitive services. In state after state, in competitive pricing proceedings, they have sought permission to set price floors for their competitive services at long run incremental cost, which is lower than TELRIC.¹⁹⁹ In every case, they argued that incremental cost pricing was fully compensatory and sufficient to allow them to recover their investments fully, including associated risk costs. For example, ILECs have invested tens of millions of dollars in Centrex facilities (which compete with PBX) while simultaneously seeking permission to price Centrex service at Long Run Incremental Cost (LRIC). They would not have undertaken these investments and sought these pricing floors had they not viewed LRIC pricing as fully compensatory. There is no reason why pricing wholesale services at TELRIC-based rates, which exceed LRIC rates, would be less compensatory or provide less incentive for network investment.

ILECs argue that TELRIC measures the hypothetical costs of an ideal network rather than actual costs, and therefore understate costs. In fact, effectively competitive markets drive prices toward the current value of the assets needed to provide a good or service, not toward historic costs, and providers operating in these markets must take this into account. They understand that their actual cost outlays will not coincide with their revenue in-takes, as the timing of depreciation expenses do not exactly coincide with investment outlays. But effectively competitive markets implicitly take depreciation into account when determining price. Similarly, the TELRIC methodology takes technological and market depreciation into account when calculating forward-looking economic costs by incorporating appropriate depreciation rates. Where technology

¹⁹⁹ See, e.g. George W. Costello, *The Use of Incremental Costs in Regulatory Proceedings, Determining the Economic Cost of Actions Requiring Regulatory Review, in Marginal Cost Techniques for Telephone Services: Symposium Proceedings* 666 (William Polard ed. 1991).

evolves rapidly, higher depreciation rates are incorporated explicitly in TELRIC cost studies, just as they would be incorporated implicitly in market rates.

c) *Setting UNE Rates at TELRIC Will Not Adversely Affect Funding for Universal Service*

The overriding objective of the 1996 Act was to foster competition in all telecommunications markets and to eliminate regulatory and other impediments to such competition. In order to accomplish this goal, implicit subsidies that were built into certain rates had to be eliminated. When the Commission began the monumental task of implementing the 1996 Act, it recognized that it had three major undertakings, all of which were inter-related: creating the interconnection, unbundling, pricing and other rules needed to implement Section 251, universal service reform, and interstate access charge reform.

In access reform, the Commission had to remove implicit subsidies from interstate access charges; in universal service reform, the Commission had to create explicit universal service funds to replace the implicit subsidies. Today, access charge reform is almost entirely completed. As the Commission found in its *Access Charge Reform Order*,²⁰⁰ it had already been “established Commission practice that special access will not subsidize other services.” With the implementation of the subsequent *CALLS Order*,²⁰¹ implicit universal service subsidies were removed from interstate switched access rates as well. Although interstate switched access rates under the CALLS plan continue to exceed TELRIC, none of the above-cost revenues generated by these services are attributable to universal service subsidies. As a result, if requesting carriers choose to substitute TELRIC-based UNEs for either switched or special interstate access services, there is no impact on universal service funding.

²⁰⁰ See *Access Charge Reform*, First Report and Order, 12 FCC Rcd 15982 at ¶ 404.

²⁰¹ See *Access Charge Reform*, Sixth Report and Order, 15 FCC Rcd 12962.

8. UNEs Play an Important Role in Sustaining Competition for Long-Distance Services

The unbundling rules do not operate in a vacuum, and their benefits are not limited to local services. In reviewing the unbundling rules, the Commission should therefore examine the effects any changes will have on competition throughout the communications industry. Specifically, it is critical that the Commission consider the important role UNEs play in maintaining competition for long-distance services.

FCC policies have succeeded in creating robust competition in the long-distance business. According to recent FCC statistics, more than 700 competitors now offer long distance services.²⁰² Since the divestiture of the nation's monopoly provider of long distance and local services in 1984, AT&T's share has continued to erode from its high of 90% to less than 40% in 2000.²⁰³

Since competition was introduced in 1984, long distance rates have declined by more than 70% (adjusting for inflation),²⁰⁴ while local rates have not declined, and the quality of long distance networks has improved significantly. Many analysts predict that falling long-distance prices will continue their downward trend for the next several years.²⁰⁵ Specifically, consumer and business long distance prices are expected to fall about 10 - 11% over the next few years, compared to 9% in the prior five-year period.²⁰⁶

If the FCC were to deprive competitive providers of access to UNEs, it would risk undermining competition for long-distance services by enhancing incumbent LECs' ability to leverage their power in the local market to harm their long-distance

²⁰² FCC *Trends in Telephone Service*, Industry Analysis Division, Common Carrier Bureau (August 2001) at Table 10.4, p. 10-10.

²⁰³ *Id.* at p. 10-3.

²⁰⁴ *Id.* at p. 14-1.

²⁰⁵ See Consumer Federation of America, *Lessons From the 1996 Telecommunications Act: Deregulation Before Meaningful Competition Spells Consumer Disaster*, February 2001 at 3; See also *J.P. Morgan* at p. 52.

²⁰⁶ *Id.*

competitors. Due to interLATA restrictions on the BOCs, most customers today receive long-distance services from interexchange carriers other than the BOCs. This is changing, however, as the BOCs obtain section 271 approval and begin to offer interLATA services originating within their territories. The FCC already has approved BOC 271 applications for 10 states²⁰⁷ and some estimates indicate that as many as 20 or more 271 applications for BOC in-region long distance could be filed before the end of 2002.²⁰⁸ As they enter the long-distance business, the BOCs often market their long-distance and local offerings as a package, providing their customers with “one-stop shopping.” Using this strategy, the BOCs have been able to gain share in the long distance business extremely rapidly.²⁰⁹ Some analysts predict that the incumbents will capture about 30% of the consumer and 22% of business retail long distance revenues by 2006.²¹⁰

If they are to compete successfully against the BOCs, other carriers must be able to provide similar packages of local and long distance services. WorldCom and others depend on incumbent LEC-provided UNEs for the “last mile” facilities they need to provide the “local” (exchange and exchange access) part of the local-long distance package. If the Commission were to reduce or eliminate the incumbent LECs’ obligation

²⁰⁷ The states where the FCC has authorized the RBOCs to provide in-region long distance services are (in order of approval): New York, Texas, Kansas, Oklahoma, Massachusetts, Connecticut, Pennsylvania, Missouri, Arkansas and Rhode Island. Currently, 271 petitions pending at the FCC include: Vermont, Georgia, Louisiana, Maine and New Jersey.

²⁰⁸ Arnhold and L. Bleichroeder, Inc., *Global Viewpoint – U.S. Telecom Services: Deconstructing Telecom – RBOCs as Net Winners* (David A. Bench, Analyst) (Feb. 5, 2002) at pp. 42, *et seq.*

²⁰⁹ For example, in an Oct. 30, 2001 8-K filed with the SEC, Verizon reported that it had a 31.7% share of New York long distance customers. Verizon 3Q 2001 Earnings Release, *available at* <<http://investor.verizon.com/SEC/html/0000950134/0000950134-01-507762.html>> at p. 4.

²¹⁰ *J.P. Morgan* at p. 60.

to provide rivals with UNEs at cost-based rates it would undermine competition in the long-distance business, and wipe out all the gains the Commission has worked so hard to create.

B. Effective Unbundling Rules Are Critical to Competition for Business Services

1. Competitive Carriers' Ability to Serve Business Customers Would Be Impaired Without Unbundled Access to High-Capacity Loops

Less than one year ago, three of the BOCs jointly filed a petition asking that the Commission eliminate the mandatory unbundling obligation for so-called "high-capacity" loops and dedicated transport.²¹¹ The BOCs included any circuit of DS-1 or greater capacity in this category, despite the fact that a DS-1 is nearer in bandwidth to a voice-grade circuit than it is to a DS-3, let alone an OC-48.²¹² This attempt to lump circuits of widely differing bandwidths into a single category is nonsensical. It is unlikely that the competitive alternatives for customers that require DS-1-level service, would be identical to those for customers that need OC-n connectivity. By aggregating lower-bandwidth circuits such as DS-1s into the same category as optical level circuits, the BOCs seek to obscure the fact that CLEC alternatives for DS-1 circuits are much more limited than their alternatives for optical level circuits. To fairly assess impairment, the Commission therefore must look at the competitive landscape relevant to each circuit type.

a) DS-1 Loops

As outlined above, for the vast majority of buildings where there is likely to be demand for DS-1 circuits, there are no alternatives to the incumbent LECs' facilities.

²¹¹ Joint Petition of BellSouth, SBC, and Verizon for Elimination of Mandatory Unbundling of High-Capacity Loops and Dedicated Transport (filed April 5, 2001), CC Docket No. 96-98.

²¹² A DS-1 can be channelized into 24 voice grade (DS-0) circuits. A DS-3 is the equivalent of 28 DS-1s or 672 DS-0s. An OC-48 is the equivalent of 48 DS-3s, or 1,344 DS-1s.

Competitive alternatives fall far short of the ubiquity that the Commission requires before it can find no impairment. While the incumbent LECs are able to provide service to virtually every location where there is demand for DS-1 service,²¹³ competitors are able to provide DS-1s only to approximately 30,000 buildings nationwide. As explained in the *Reynolds Confidential Ex Parte*, WorldCom alone relies on ILEC-provisioned circuits to provide services to customers in a vast number of buildings where the ILEC is the exclusive provider of last-mile facilities.²¹⁴

Given that competitive alternatives to ILEC DS-1 loops exist in only a fraction of the buildings where there is demand for DS-1s, requesting carriers would plainly be impaired if they were denied unbundled access to DS-1 loops. As the Commission found in the *UNE Remand Order*, the cost and timeliness issues contribute to the impairment that would follow denial of unbundled access to these loops. As in 1999, the fixed costs of constructing loop plant continue to be quite high. According to the *Fleming Declaration*, the cost of recent building “adds” for WorldCom has averaged about \$250,000.²¹⁵ And the process of adding a building can take six to nine months or longer. Meanwhile, standard intervals in the ILEC tariffs for installing DS-1 circuits typically range from seven to ten business days.

b) DS-3 Loops

Even for DS-3 loops, competitors still do not provide ubiquitous alternatives to ILEC facilities. CLECs are able to provide DS-3 service to no more than 30,000 buildings nationally. As with DS-1s, only the ILECs possess definitive information about the number of locations to which they provide DS-3 loops. However, WorldCom alone

²¹³ Only the ILECs know the precise number of locations in which they provide one or more DS-1s, and they have failed to include that number in the various “fact reports” which they have issued from time to time.

²¹⁴ *Reynolds Confidential Ex Parte* at ¶ 6.

²¹⁵ *Fleming Declaration* at ¶ 8.

relies on ILEC last-mile DS-3s to reach thousands of buildings where the ILEC is the exclusive provider. Thus, it is likely that the ILECs provide DS-3 loops to many thousands of building where there is no alternative provider. As with DS-1s, self-provisioning loops to these locations would be extremely costly and time-consuming. Accordingly, requesting carriers would be impaired if denied unbundled access to ILEC DS-3 loops.

c) OC-n Loops

There is very little reliable information on the distribution of demand for these very high capacity circuits. That demand is undoubtedly more concentrated than demand for DS-1s, or even DS-3s. Moreover, it is likely that CLECs have built to relatively more locations with OC-n customers than to locations with lower bandwidth demand, since there is a higher probability that buildings with such customers will generate sufficient revenues to justify the high cost of network construction. Nonetheless, the best available evidence shows that the ILECs possess far more extensive fiber networks than their rivals. For example, the New York PSC found that in LATA 132, perhaps the most competitive geographic area in the nation, Verizon's fiber network extends to seven times as many buildings as all of its competitors combined.²¹⁶ This strongly suggests that even collectively CLECs are not close to providing ubiquitous alternatives to ILEC loops.

2. Competitors Would Be Impaired Without Unbundled Access to Transport

As was the case when the Commission adopted the *UNE Remand Order*, alternative transport is still available only on "selected point-to-point routes ... in dense markets."²¹⁷ No competitor provides alternative transport to more than a handful of incumbent LEC central offices. In many of the wire centers with competitive transport

²¹⁶ *NYPSC Special Services Order* at 7.

²¹⁷ *UNE Remand Order* at ¶ 333.

only a single alternative is available. In addition, many wire centers can be reached via CLEC transport only by using less efficient routing, or if the requesting carrier incurs the additional cost of coordinating multiple vendors.

WorldCom's experience shows that even the largest self-providers of transport must rely on the ILECs for most interoffice routes. Despite WorldCom's extensive local networks, WorldCom can self-provide transport to only a small fraction of the approximately 22,000 incumbent LEC wire centers.

Because existing competitive fiber networks still reach only a small percentage of ILEC wire centers, CLECs are still impaired without access to unbundled transport. As the Commission found in the *UNE Remand Order*, requiring CLECs to self-provide or acquire transport from third parties "materially increases ... costs of entering a market or of expanding ... service, delays broad-based entry, and materially limits the scope and quality of [their] service offerings."²¹⁸

A CLEC's ability to self-supply transport is, as a general matter, limited by the high fixed and sunk costs associated with the construction of transport facilities. As explained in the *Fleming Declaration*, the extension of a WorldCom local network to an additional ILEC central office generally costs at least \$1 million, and costs substantially more if the target central office is located several miles from WorldCom's existing network, as is typically the case.²¹⁹

Because the fixed and sunk costs of extending a CLEC network to an additional central office are so high, it is generally not viable for CLECs to self-supply transport unless the route is relatively short and the traffic density relatively high. For a more typical route, a CLEC's per-circuit cost of self-provisioning transport would be very high as the CLEC would incur costs of well over \$1 million and could reasonably expect to

²¹⁸ *Id.* at ¶ 321.

²¹⁹ *Fleming Declaration* at ¶¶ 13-14.

win only a portion of the demand on that route. By contrast, the cost of obtaining DS-1 transport from the incumbent LEC can be as low as \$40 per month for a five-mile circuit. This significant differential between CLEC costs and the forward-looking cost of the incumbent's element reflects the economies of scale disadvantages faced by CLECs. Under the impairment standard, this material difference in cost demonstrates that self-provisioning is not a practical and economic alternative to the incumbent LEC's unbundled network elements for most interoffice transport routes.

Even if there were no cost differential, replication of the incumbent's ubiquitous transport network would significantly delay competitive entry. Indeed, WorldCom alone has customers that utilize DS-1 or higher bandwidth in over 6,800 BOC wire centers, the vast majority of which are not served by CLEC transport. The construction of competitive transport facilities to thousands of incumbent LEC wire centers would take many years. This significant delay to competitive entry is clear evidence that CLECs would be impaired if denied access to unbundled dedicated transport.

3. Incumbent LECs Must Provide Multiplexing in Conjunction With UNE Loops and Transport

Although the Commission's rules plainly require incumbent LECs to provide all "features, functions, and capabilities" of both the loop and transport elements,²²⁰ incumbent LECs have claimed that this creates no obligation to provide requesting carriers with multiplexing functionality.²²¹ The Commission must make it clear that the

²²⁰ 47 C.F.R. §§ 51.319(a)(1); 51.319(d)(2)(ii).

²²¹ See, e.g., In the Matter of Petition of WorldCom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Expedited Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon-Virginia, Inc., and for Expedited Arbitration, CC Docket No. 00-218, In the Matter of Petition of Cox Virginia Telecom, Inc. Pursuant to Section 252(e)(5) of the Communications Act for Preemption of the Jurisdiction of the Virginia State Corporation Commission Regarding Interconnection Disputes with Verizon Virginia Inc., and for Arbitration, CC Docket No. 00-249, In the Matter of Petition of AT&T Communications of Virginia Inc., Pursuant to Section 252(e)(5) of the Communications Act for

duty to provide multiplexing is co-extensive with the duty to provide unbundled access to loops and transport.

One of the “features, functions, and capabilities” of a loop or transport circuit is that its capacity may be “channelized,” *i.e.*, subdivided into several lower capacity circuits. For example, it is technically feasible to subdivide the capacity of a DS-3 circuit into several DS-1 and DS-0 channels. Thus, for the incumbent LECs to meet their obligation to provide unbundled access to all the features, functions, and capabilities of the loop and transport elements, they must allow requesting carriers to specify where and how those elements are to be multiplexed. Any other outcome would produce blatant discrimination in violation of section 251(c)(3), as the incumbent LECs would be free to provide multiplexing for their retail operations in whatever manner they or their customers require.²²²

4. Competitors’ Ability to Provide the Services They Seek to Offer Would Be Impaired Without Unbundled Access to EELs

The above analysis plainly shows that requesting carriers would be impaired if denied unbundled access to DS-1 loops, DS-3 loops, OC-n loops, and dedicated transport. It follows that they would also be impaired if denied unbundled access to the combination of loop and transport elements, commonly referred to as EELs. If requesting carriers were given access to unbundled loops and transport, but required to combine these elements themselves, they would have to establish costly collocation sites in every ILEC central office and dispatch personnel to those facilities each time a combination had to be made or undone.

Preemption of the Jurisdiction of the Virginia Corporation Commission Regarding Interconnection Disputes With Verizon Virginia Inc., CC Docket No. 00-251, Verizon VA’s Direct Testimony On Mediation Issues, Unbundled Network Elements, Testimony of Margaret Detch, Susan Fox, Steve Gabrielli, Nancy Gilligan, Richard Rousey, Alice Shocket and Vincent Woodbury at 4-6 (Aug. 17, 2001).

²²² 47 U.S.C. § 251(c)(3).

Competitors require EELs to reach end user customers served out of distant end offices where it is not economically feasible to collocate. These customers should not be denied the competitive alternatives that may be available to customers located in more densely populated areas. As WorldCom has already demonstrated, competitive carriers are plainly impaired by the denial of unrestricted, non-discriminatory access to EELs.²²³ The Commission should therefore require that ILECs provide non-discriminatory access to EELs.

5. The Commission Should Enforce the Availability of Required UNEs and UNE Combinations

Mandatory unbundling of certain network elements will prove a Pyrrhic victory for competitive carriers if the incumbent LECs are able to avoid providing those elements in a reliable manner. Indeed, the Commission has implicitly recognized the critical importance of this concern in a recent Notice of Proposed Rulemaking.²²⁴ Yet, when it comes to unbundled DS-1 loops and transport circuits, the incumbent LECs have erected an obstacle course of operational barriers designed to steer their competitors away from unbundled network elements and towards above-cost interstate access services. It is important for the Commission in this proceeding to raze those barriers by declaring such practices unlawful.

First, the Commission should expressly authorize the practice known as “co-mingling.”²²⁵ WorldCom and other carriers commonly purchase multiplexing pursuant to

²²³ *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Comments of WorldCom, Inc. (April 5, 2001).

²²⁴ *Performance Measurements and Standards for Unbundled Network Elements and Interconnection*, CC Docket No. 01-318, Notice of Proposed Rulemaking (Nov. 19, 2001).

²²⁵ As used by the Commission, “co-mingling” is the practice of combining loops or loop-transport combinations with tariffed special access services. *Supplemental Order Clarification* at ¶ 28. For example, a competitive LEC might have a DS-1 circuit that is currently connected to a DS-3 hub in an intermediate end office. The competitive LEC should be able to convert that DS-1 to an EEL to provide local service without making

incumbent LEC interstate access tariffs. There is no legitimate reason why requesting carriers should be prohibited from assigning unbundled loops or EELs to individual channel assignments on these multiplexers. This practice would allow competitive carriers to operate their networks more efficiently. Moreover, there is no harm to the incumbent LECs from this practice, except the harm of permitting competitors to operate more efficiently.

Second, the Commission must clarify the circumstances in which it is legitimate for an incumbent LEC to reject a UNE order based on an assertion of “no facilities.” As discussed above, it appears that incumbent LECs may frequently claim that no facilities are in place, in circumstances in which they would not hesitate to fill an order for a retail customer. For example, Verizon has adopted a policy that allows it to invoke the “no facilities” response, even when all that is needed is a relatively trivial change to certain attached electronics. The Commission must make it plain that the obligation to provide UNEs applies in all circumstances where an incumbent would provision service for its own retail customers. Any other rule would be discriminatory on its face.

C. UNEs And UNE-P Are Critical To Competition For Mass Market Customers

1. Consumers Benefit from UNE-P Based Competition

UNE-P is the only method capable of creating widespread local competition and it is undisputed that such competition is desirable. Indeed, in every state in which WorldCom's MCI Group provides local service via UNE-P, it offers consumers

any changes to its channel facility assignment on the DS-3 hub. Yet the incumbent LECs insist that this would amount to "co-mingling" of UNE and interstate special access circuits, which they argue is forbidden. In effect, the incumbent LECs would force competitive LECs to maintain two separate access networks – one for access to UNE circuits, the other for access to special access circuits.

innovative products and competitive pricing.²²⁶ MCI offers stand-alone local service, as well as packages of local and long distance services for consumers with a wide variety of needs and calling patterns. The options it offers include unlimited local calling, an option previously unavailable to customers in some areas, such as parts of New York City. One of MCI's flagship products, Local Choice, includes unlimited local calls plus a "bucket" of 200 "anytime" minutes for use with any in-state or interstate calling plan. This product spares consumers the confusion of the LATA system. MCI's entry in Pennsylvania, for example, eliminated the need for consumers to understand complicated and arcane area distinctions in the "band" system to determine if a local call fell into the unlimited or toll call category. CLEC entry also results in reduced prices for consumers. In Michigan, MCI offers an unlimited local calling plan for half the price originally offered by Ameritech. In response, Ameritech subsequently dropped its price for its own unlimited local calling product by more than 50% – a perfect example of how competition benefits consumers.

a) There Are No Disadvantages to Making UNE-P Available

The availability of UNE-P has no offsetting disadvantages. Despite ILEC claims to the contrary, the availability of UNE-P does not deter CLECs from deploying facilities where practical, as is evident by the 1.2 million access lines being provided via competitors' switches in New York.²²⁷ There is no need for regulators to create or adjust regulations to encourage facilities-based service.²²⁸ The market itself already provides an

²²⁶ In the states in which MCI offers local service, it does not always offer service state-wide because the UNE rates are often set at levels in certain areas that do not enable MCI to compete, even with a premium product.

²²⁷ *Proceeding On Motion of the Commission to Consider Cost Recovery by Verizon and to Investigate the Future Regulatory Framework*, Case 00-C-1945, Panel Testimony of New York Department of Public Service (Feb. 2002) at p. 434.

²²⁸ For example, there is no need for regulations that prohibit CLECs from serving more than a certain percentage of their customer's access lines using UNE-P or "require that they migrate customers to its own facilities once it begins providing service to a sufficient

incentive to provide facilities-based service where feasible: profit margins for facilities-based services are more than 1.5 times those of UNE-P.²²⁹ Moreover, carriers prefer to have the direct control over their networks that their own facilities provide. “No one knows more than [MCI does] about the realities of . . . being operationally dependent on one’s chief competitor.”²³⁰ As AT&T recently stated to the Commission, although it is a significant user of UNE-P, it “has a compelling interest in utilizing its own facilities whenever and wherever it can”²³¹ The availability of UNE-P has not harmed AT&T as a facilities provider, nor has it deterred AT&T from making significant investments in local infrastructure.²³² Thus, it is clear that UNE-P does not detract from other entry modes, but rather provides an additional and essential method of entry, increasing the overall level of competition, as envisioned by the Act.²³³

2. The FCC Should Expand the Reach of UNE-P Based Competition by Lifting Restrictions on Unbundled Switching

Access to ILEC unbundled switching remains essential for CLEC provision of local service to mass market customers. As noted above, empirical evidence shows that ubiquitous local competition has begun to develop only where UNE-P is available. This is so even in major urban areas, where only negligible numbers of mass market customers who rely on analog loops are served by CLECs over the CLECs’ own facilities or over unbundled loops. The Commission now has two years of experience with the UNE-

number of customers served by a single central office.” See *NPRM* at ¶¶ 45-6.

²²⁹ *Deutsche Bank Report* at p. 16, figure 15.

²³⁰ *Huyard Speech to NARUC*.

²³¹ *AT&T Ex Parte Notice*, Petition for Reconsideration and Fourth Further Notice of Proposed Rulemaking, CC Docket No. 96-98 (April 2, 2001) at p. 2.

²³² *Id.* at pp. 1-2.

²³³ WorldCom provides further evidence below in the section on unbundled switching. As demonstrated in that discussion, the level of facilities-based and UNE loop competition is as high in states in which UNE-P is prevalent as in other states.

switching exception it carved out in the *UNE Remand Order* and that experience teaches that the exception has not had its intended effect. There has been little or no facilities-based competition for customers served by less than DS-1 capacity loops, and the exception has merely served to ensure that a group of customers are consigned to ILEC monopoly service. The exception therefore should be limited to DS-1 or higher capacity loops in the 50 largest MSAs where EELs are available.

a) Small Business and Residential Customers Cannot Be Served without Access to Unbundled Switching

In the past three years it has become clear that there are two distinct categories of telecommunications customers that typically are served by different technologies and through distinct marketing channels. On one hand, there are customers with relatively intense, often data-centric demand for telecommunications services sufficient to justify carrier and customer equipment, investment, and personnel costs associated with digital technology. These customers typically maintain at least minimal telecommunications expertise in-house and enter term contracts for telecommunications services. They are willing to invest in customer premises equipment and to bear the external and internal costs associated with labor-intensive installation and provisioning activities. And they are almost always served by DS-1 loops or even higher capacity loops because that is the architecture that best meets their needs. On the other hand, there are customers who have relatively simple needs for voice grade service and perhaps dial-up access to the Internet (or access via DSL). They are served by analog loops sometimes supplemented by DSL-based Internet access and related services. This category includes virtually all residential and small business customers.

As discussed in some detail in Section II.B, the first group of customers can, in some instances, be served efficiently by a CLEC's switch. If the customer is located in reasonable proximity to a CLEC's switch, if there are EELs available to ensure an

efficient loop-multiplexer-transport transmission path to the carrier's network, and if the customer generates sufficient traffic and commits to a term contract that provides an opportunity for the CLEC to recover its non-recurring charges and investment costs, then switch-based service can be viable. The customers are often willing to purchase such service from a CLEC despite the difficulties of coordinating installation because such coordination also is required when they purchase service from the ILEC and because they frequently add incrementally to their existing telephone services (or change carriers incrementally) and have the personnel to deal with the necessary coordination and attendant disruption.

But even within this market for intense users of telecommunications, the CLEC will not be able to serve all customers who require DS-1 service or higher. There must be a sufficient concentration of such customers to justify deployment of a CLEC switch. It is not yet clear where this concentration point is, but there is no evidence that sufficient concentration exists outside the top 50 MSAs.²³⁴ In addition, the CLEC must have access to EELs. Without access to EELs, CLECs would have to pay significant unnecessary collocation expenses and could not use loop and transport facilities as efficiently as the ILECs do to get their traffic to their own switches, making it difficult to compete.²³⁵

²³⁴ See *Determination of Prices, Terms, and Conditions of Certain Unbundled Network Elements*, Ga. PSC, Docket No. 14361-U, Direct Testimony of Joseph Gillan for Access Integrated Networks, Inc., ITC Deltacom, Inc., WorldCom, Inc. (Feb. 18, 2002) at p. 29 (*Gillan Georgia Direct*). Even if sufficient traffic existed in the 50th to 100th largest MSAs to support one or two CLECs in each of these MSAs, this would not justify extension of the UNE-switching exception to these MSAs. Without UNE-switching, other CLECs would be unable to provide service in these MSAs, reducing competitive options for customers to one or two companies. Moreover, no one CLEC would be able to provide service in all of the MSAs. As a result, no CLEC would be able to offer service to customers with multiple locations because the CLEC could not provide service at all of the customer's locations. Such multi-location customers are a key part of the business of WorldCom and other national CLECs.

²³⁵ *Gillan Georgia Direct* at pp. 29-31.

In contrast to the high-intensity digital customers that can sometimes be served economically from a CLEC's switch, switched-based mass market service remains at present an unachievable goal due to the limits of today's technology and the limited number of customers currently obtaining local service from CLECs. It is almost always prohibitively expensive to concentrate and transport the traffic of a limited number of low-intensity analog customers back to a CLEC switch. The necessary economies of scale and scope still can be achieved only by leasing ILEC facilities. Additionally, the costs of collocation and backhauling traffic to the CLEC switch alone are prohibitive.²³⁶ And even where the CLEC already has collocated to serve digital customers, the manual costs of loop provisioning are too high to serve analog customers. Whereas a customer with DS-1 service will require a single hot cut for that DS-1, a customer with multiple analog lines will require multiple hot cuts. This will increase the coordination costs for the CLEC – as well as the non-recurring charges (NRCs) the CLEC must pay to the BOC to perform the hot cuts. If and when such manual processing is replaced by electronic cross-connects, that barrier to switch-based mass market service will be removed. But that day has not come, and only if and when it does arrive, will it be possible to see whether the other formidable barriers to switch-based mass market entry can be overcome. Moreover, because customers with analog lines are much less likely to enter long term contracts than customers with DS-1 or higher service, a CLEC may have little time to recover the coordination costs and NRCs before the customer migrates to a different carrier.²³⁷

²³⁶ *Id.* at p. 23. The ILEC does not incur these costs, making it difficult for the CLEC to compete.

²³⁷ In Georgia, for example, it would take a CLEC more than 15 months to recover just the additional NRCs associated with loop provisioning as compared with UNE-P, assuming a net profit margin of 10% and revenue equal to the average revenue for switched line. *Gillan Georgia Direct* at p. 24.

Moreover, for the mass market customer, a change in carrier also needs to be seamless and painless to be worthwhile. A simple migration now is possible using the UNE-Platform, and mass market customers are showing a willingness to add DSL-based Internet access and related services when those added services do not disrupt basic POTS service. But the kind of coordinated migration necessary to provision a UNE-loop to a CLEC switch has not yet proven to be efficient and simple enough to attract mass market customers, even if it could be provided a competitive rate.

Not surprisingly then, while there are a few switch-based CLECs that claim they serve some customers who have only a few lines, none has demonstrated that it serves analog customers on anything but an occasional basis – or that it is profitably serving customers even in these instances. Because of the economic realities, WorldCom itself is not offering voice service to small business customers with analog lines even where it is collocated at the ILEC end office serving those customers.

This is not because WorldCom – or other CLECs – are serving these business customers via UNE-P. Although the margins in serving small business customers via UNE-P are higher than they are for serving residential customers, UNE-P competition for small business customers has been somewhat limited to date. This is because there has been uncertainty about the ongoing availability of UNE-P for the provision of service to small business customers (even those with fewer than four lines) – due to the Commission's failure to reach closure on a petition for reconsideration of the *UNE Remand Order* seeking to expand the switching exception to cover all business customers. Providers such as WorldCom's MCI Group have delayed serving small businesses using UNE-P. Nonetheless, facilities-based competition remains dormant.

*b) Availability of Unbundled Switching Does Not Discourage
Facilities Deployment*

The best market data available today support the proposition that very little facilities-based or UNE-loop competition exists for customers served by analog lines, and the competition that does exist is not harmed by the availability of UNE-P. The best available data are those comparing the level and robustness of competitive alternatives in those jurisdictions where there has been greater and more certain access to UNEs to those jurisdictions with more restricted and uncertain access to UNEs. Although this data does not specify the types of customers that are being served by facilities, the very low level of facilities-based or UNE-loop competition overall makes clear that few customers other than large business customers are served with facilities. The data also show that facilities-based and UNE-loop competition is not reduced as UNE-P becomes more prevalent.

In particular, in testimony submitted recently in Georgia, Joseph Gillan compared competition in Georgia, where UNE-P became available in early 2000, with competition in other BellSouth states where pricing or other issues are still precluding UNE-P entry. Georgia had higher UNE-P penetration than other BellSouth states (3.1% as compared with 1.3% elsewhere) and *also* had higher UNE-loop penetration (5% compared with 1.1% elsewhere).²³⁸ Over the course of 2001, customers served via UNE-P in Georgia increased by 143% (from 78,068 to 190,073), customers served via UNE-loops increased by 7.9% (from 80,698 to 87,082), and customers served via resale fell by 35% (from 144,398 to 93,930).²³⁹ Roughly 40% of the customers served via UNE-P were business customers.²⁴⁰ These data show that the growth of UNE-P does not lead to a decrease in

²³⁸ *Id.* at p. 9.

²³⁹ *Id.* at p. 8.

²⁴⁰ *Id.* at p. 8.

UNE-loop service. To the contrary, it increases competition for customers who previously had no competitive alternative, including many small business customers.

Mr. Gillan performed a similar analysis for competition in Texas.²⁴¹ In particular, based on Texas law, the Texas Public Utility Commission has required ILECs to make available UNE-P *without exceptions*. Mr. Gillan compared the market impact of that decision with market impact of other states' decisions to employ the FCC's restriction on UNE switching.²⁴² The results were dramatic. For the thirteen states that applied the FCC restriction, the average CLEC market share from UNE-platform was 1.2 percent (ranging from 0.4 percent to 3.8 percent), for resale was 3.4 percent (ranging from 1.8 percent to 5.1 percent) and for UNE-loop was 1.8 percent (ranging from .4 percent to 3.9 percent). By contrast, the CLEC market share from UNE-P in Texas was 13.5 percent, from resale was 3.2 percent, and from UNE-loop was 1.6 percent. These market results show that eliminating the UNE switching exception in Texas substantially increased competitive entry, but not at the expense of UNE-loop or resale entry strategies, which were almost at the same levels as in the other 12 states.²⁴³

Mr. Gillan presented Texas-only data that provided additional support for these conclusions.²⁴⁴ He compared the number of lines captured by CLECs in January 2000

²⁴¹ Public Utility Commission of Texas, *Petition of MCIMetro Access Transmission Services, LLC, Sage Telecom, Inc., Texas UNE Platform Coalition, McLeod USA Telecommunications Services, Inc., and AT&T Communications of Texas, L.P. for Arbitration with Southwestern Bell Telephone Company Under the Telecommunications Act of 1996*, Direct Testimony and Rebuttal Testimony of Joseph Gillan, on Behalf of The Texas UNE-P Coalition [Birch Telecom, ionics, Logix, nii, Talk America, TXU Communications, and Z-Tel Communications, Inc.], AT&T Communications of Texas, L.P., and McLeodUSA Telecommunications Services, Inc., Docket No. 24542 (*Gillan Texas Direct* and *Gillan Texas Rebuttal*).

²⁴² *Gillan Texas Direct* at p. 24, Table 3.

²⁴³ Similarly in New York, which never implemented the FCC's exception on provisioning of UNE-P, UNE-P penetration is far above average at 14.5% and UNE-loop penetration is also above average at 2.2%. *Gillan Georgia Direct* at p. 9.

²⁴⁴ *Gillan Texas Rebuttal* at p. 12, Table 2.

and in June 2001 by type of entry – UNE-P, UNE-loop, resale, and pure facilities-based. He found that facilities-based CLEC lines increased by somewhere between 34,079 and 114,183,²⁴⁵ CLEC UNE-loop lines increased by 94,446 (from 49,000 to 143,446), CLEC resale lines fell by 62,528 (from 347,000 to 284,472), while CLEC UNE-P lines increased by 1,062,233 (from 148,000 to 1,210,233). These data further demonstrate that UNE-P is the primary means to introduce competition into the market, but that it does not stifle pure facilities-based or UNE-loop entry. They also show that very rapid entry can best be provided by UNE-P. Based on this market evidence, the Texas Commission has just ruled that SWBT must continue to make UNE-P available to requesting carriers without restriction.²⁴⁶

While not going quite this far, the New York PSC on February 27, 2002 approved a recent settlement agreement among carriers in New York regarding the “Verizon Incentive Plan,”²⁴⁷ setting the UNE switching exception at customers with 18 lines. In earlier *ex parte* filings in this docket, several parties presented empirical evidence that the crossover to DS-1 service occurred when a customer has approximately 18 lines.²⁴⁸ Thus, the 18-line exception rule is consistent with a UNE switching exception limited to DS-1 or greater service.

²⁴⁵ There were no direct data on facilities-based lines, just on minutes. This range represents different possible assumptions on the minutes per line captured by CLECs.

²⁴⁶ That decision has been announced orally at the open meeting of the Texas PUC on March 6, 2002 (Docket No. 24542); a written decision is expected to be released in late April 2002.

²⁴⁷ *Re Verizon-NY*.

²⁴⁸ *See, e.g.*, CC Docket No. 01-338, PACE Coalition *ex parte* (May 18, 2000); AT&T *ex parte* (Oct. 11, 2000).

c) *The Commission Should Narrow the Unbundled Switching Exception*

The Commission should narrow its exception to the unbundled switching requirement. The above analysis shows that the proper delimiter for the switching exception is DS-1 service in the 50 largest MSAs, not the number of customer lines or categorization of the customer as a large or small business, provided that the ILECs are offering unconstrained access to EELs. Millions of small business customers have the same demand characteristics for voice services as residential customers, and needs that are very distinct from those of more telecommunications-intensive business customers. Customers with analog service, regardless of whether they are small business customers with five or even ten DS-0 lines, cannot be served economically via CLEC facilities. Basing the UNE switching exception on a simplistic business-residential split or the number of customer lines within specified MSAs would therefore deny many small business customers access to competitive service.

It also would lessen the mass marketing economies that CLECs need to successfully offer UNE-P-based competitive service to residential customers. Even if a subset of small business customers within these MSAs (*i.e.*, customers that have more than four lines and that are served by an end office in which a CLEC has already collocated) could viably be served using unbundled loops, including such customers in a UNE switching exception would place all small business customers in those areas off limits to a broad UNE-P mass marketing business strategy. CLECs could not mass market to small business customers in these areas because they would not know whether customers fit within the exception. That uncertainty could very well undermine the viability of the mass marketing strategy altogether.²⁴⁹

²⁴⁹ *Gillan Georgia Direct* at p. 28, n. 48.

In many areas, the cost of leasing UNEs to provide UNE-P is relatively close to the cost of retail service. Therefore, CLECs must keep internal costs very low in order to compete effectively. They can only do this by taking advantage of the economies of scale associated with the establishment of automated, end-to-end ordering and provisioning systems, standardized offerings, and mass marketing, including telemarketing. Limiting the number of customers who could be served via UNE-P by carving out geographic or other exceptions among customers served by analog lines could significantly reduce these economies of scale. The higher per-unit costs that would result if the CLEC had to recover all the fixed costs associated with mass marketing from a geographically constrained subset of customers would sometimes tip the balance against a broad-based mass market offering.

It is also important to note that any switching exception should not aggregate the service of multi-location customers. In order to serve multi-locational customers, which are the core customers for switch-based CLECs, CLECs must be able to serve all the locations of those customers, even locations where the customer does not have a DS-1 or higher service and where CLECs cannot justify deploying their own switches. If CLECs do not have guaranteed access to UNE-P to serve those locations, ILECs can make it difficult or impossible for CLECs to serve those locations competitively, either by failing to offer UNE-P, or by charging rates that are above the ILECs' own cost.

In conclusion, the evidence clearly shows that CLECs are impaired in their ability to serve customers without access to unbundled ILEC switching. The only exception may be where they are offering DS-1 or higher service to customers located in the top 50 MSAs and even then, only if the ILEC is providing unconstrained access to EELs.

D. UNEs Are Essential to Promoting Competition for Broadband Services

1. Competition Has Led to the Widespread Deployment of Advanced Services.

One of the Commission's central policy goals is the widespread deployment of advanced services.²⁵⁰ The competitive industry has been instrumental in advancing this important policy goal. As the FCC has noted, "DSL deployment began in response to the 1996 Act and the presence of competitive access providers."²⁵¹ The results are evident in the Commission's annual reports on the deployment of advanced services, each of which concludes that advanced telecommunications capability is being deployed in a reasonable and timely manner.²⁵²

All four BOCs – BellSouth, Qwest, Verizon and SBC – reported substantial growth in DSL lines in 2001 and all reported growth in data services revenues.²⁵³ The BOCs' decision to roll out DSL services aggressively is clearly motivated by the threat of

²⁵⁰ See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps To Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket 98-146, Third Report, (Feb. 6, 2002) (*Third 706 Report*) at ¶ 2; and *High Speed Services for Internet Access: Subscription as of June 30, 2001* (Feb. 2002) (*FCC 2001 High Speed Stats*).

²⁵¹ *Third 706 Report* at ¶ 68. The incumbent LECs did not offer DSL service before the 1996 Act, and the advent of competitive data providers. Although the BOCs had DSL technology, they chose not to deploy it. Instead, the BOCs opted to offer only more expensive T-1 and fractional T-1 service to businesses, and nothing (other than dial-up) to consumers.

²⁵² *Third 706 Report* at ¶ 2 (citing First and Second 706 Reports released in 1999 and 2000).

²⁵³ See Qwest Press Release, "Qwest Communications Reports Fourth Quarter, Year-End 2001 Results," January 29, 2002 (stating that Qwest's ability to "leverage its infrastructure by offering broadband services for fast Internet connections" allowed it to achieve a 74% increase in DSL subscribers in 2001); Verizon Press Release, "Verizon Communications Reports Solid Results for Fourth Quarter, Provides Outlook for 2002," January 31, 2002; BellSouth Press Release, "BellSouth Reports Fourth Quarter Earnings," January 22, 2002; and SBC DSL Internet Updated, February 2002, available at www.sbc.com.

competition. Qwest, for example, has admitted that it is “stiff competition in the race to win high-speed Internet subscribers [that] has spurred Qwest to develop new service and price packages.”²⁵⁴

At the same time, through a strategy of relentless litigation and delay in provisioning of essential UNEs and collocation space, the BOCs were able to impede the roll-out of competitive DSL services and push the major data LECs into bankruptcy. For example, Rhythms and Covad approached SBC to obtain the UNEs necessary to provision DSL service in Texas in June 1998, however, SBC’s litigation tactics enabled it to delay the entry of both CLECs in Texas until August 1999.²⁵⁵ Meanwhile, SBC rolled out its ADSL offering in Texas in January 1999.²⁵⁶

Predictably, the collapse of the data LECs in early 2001 was followed by a steep rise in retail consumer prices for DSL, with prices increasing 25% – from \$39.95 per month to \$49.95 per month – in May 2001.²⁵⁷ Such a price increase is especially remarkable given the ILECs’ statements that deployment of fiber-fed NGDLC architectures that support DSL, which has been underway for two years, will substantially decrease their costs for providing broadband services.

Despite the BOCs’ efforts to chisel away at the foundation for competitive DSL – fair and reasonable access to UNEs – some competition still exists. While the three key

²⁵⁴ McDonald Investments, Investor Report (Sept. 18, 2001) at p. 5.

²⁵⁵ SBC’s tactics included withholding documents, for which it was fined approximately \$850,000 by the Texas Commission.

²⁵⁶ Similarly, SBC/Ameritech has resisted providing CLECs with unbundled access to its fiber-fed next generation digital loop carrier (“NGDLC”) Project Pronto architecture in Illinois by litigating and relitigating unbundling issues five different times. Illinois Commerce Commission Docket Nos. 00-0312/0313 (Arbitration Award and Arbitration Award on Rehearing) and 00-0393 (Order, Order on First Rehearing and Order on Second Rehearing).

²⁵⁷ *See Broadband Market Growth Slows*, WASH. POST, Aug. 28, 2001 at pp. E1, E10 (noting that retail DSL rates increased after DLECs, such as NorthPoint, exited the market.)

national competitive data LECs – Covad, Rhythms and NorthPoint – have suffered substantial setbacks, all or part of the network assets of all three are still being put to use in new incarnations. Covad, for example, emerged from bankruptcy in December 2001, and now owns a national DSL network covering more than 40 million homes and businesses in 94 metropolitan statistical areas.²⁵⁸ At the end of 2001, Covad had 351,000 DSL lines in service, of which 52% were business and 48% were residential lines.²⁵⁹ WorldCom acquired select DSL assets from Rhythms, and is using those assets to provide innovative competitive DSL offerings in 31 markets to businesses and ISPs, including DSL features and functions not available from the BOCs.²⁶⁰ WorldCom's DSL business model differs from that of Rhythms, however, in that WorldCom is using DSL as an access platform to connect business users with WorldCom's data network and deliver a wide range of services, including Internet access, VPNs, frame relay and ATM.²⁶¹ Similarly, when NorthPoint went bankrupt last year, AT&T purchased some of its assets²⁶² and announced that it would use those assets to provide high-speed access to AT&T's broadband services, including virtual private networks.²⁶³ In addition, a number of regional data CLECs continue to provide broadband services to residential and business customers.

²⁵⁸ Covad Communications Group, Inc. Form 10-Q for the quarterly period ended September 30, 2001 at p. 21.

²⁵⁹ Covad Press Release, "Covad Announces Fourth Quarter and Year End Operating Statistics for 2001," January 16, 2002.

²⁶⁰ *Graham Declaration* at ¶ 26-29.

²⁶¹ *See Graham Declaration*; "WorldCom Closes Rhythms Transaction," WorldCom Corporate Press Release, dated December 5, 2001.

²⁶² AT&T Press Release, "AT&T Completes Acquisition of Assets of NorthPoint Communications," May 25, 2001.

²⁶³ AT&T Press Release, "AT&T Acquires Assets of NorthPoint Communications," March 22, 2001.

Competitive DSL providers continue to play a critical role in the markets for broadband and high-speed Internet access services. WorldCom, for example, provides business-class DSL service that is configured to offer different broadband services, features and functions than the BOCs' service offerings.²⁶⁴ In addition, WorldCom provides independent ISPs with the high-speed services they need in order to compete with the BOCs' ISP affiliates.²⁶⁵ The ability of independent ISPs to obtain broadband services from competitive providers such as WorldCom is critical to competition for retail high-speed Internet access, particularly given allegations by independent ISPs that the BOCs discriminate in favor of their affiliated ISPs.²⁶⁶ Moreover, the unbundling of broadband loops will become increasingly important as all forms of communication (e.g. voice, data and video) continue to migrate to packet switched technologies, including those used for the Internet and the BOCs' fiber-fed NGDLC platforms.

The key spur to broadband deployment by incumbent LECs has been, and will continue to be, competition from competitive LECs and cable companies. The competitive LECs are particularly critical to the deployment of broadband services to customers other than residential customers, such as small and medium-sized businesses, and branch offices of larger businesses. At the same time, competitive LECs seeking to offer DSL services are dependent on incumbent LECs for all of the network elements described below, including loops, line sharing, transport and OSS. The availability of UNEs is critical to the ability of competitive LECs to offer DSL services in competition

²⁶⁴ *Graham Declaration* at ¶ 38.

²⁶⁵ *Id.* at ¶¶ 40-41.

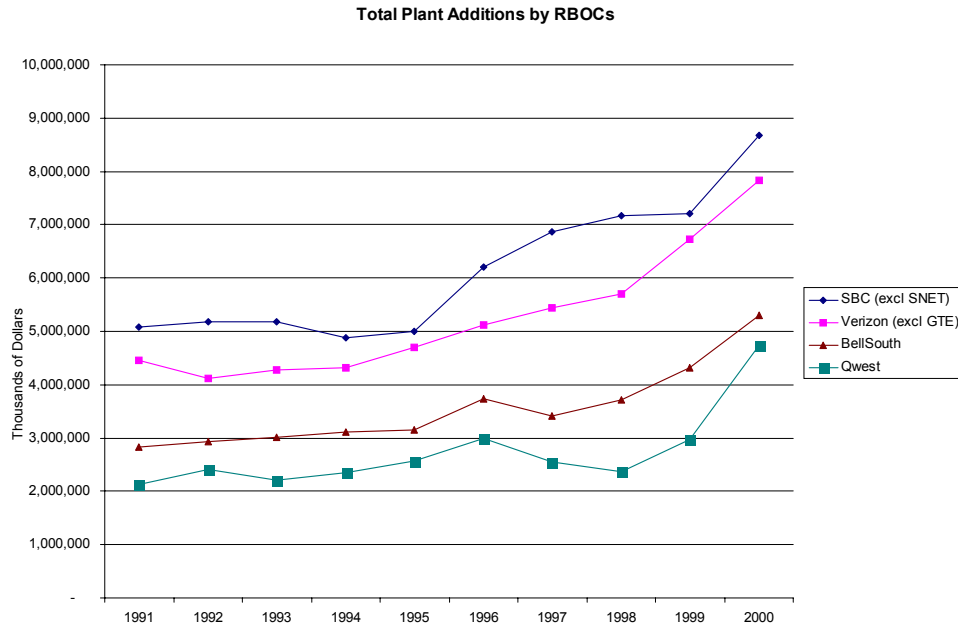
²⁶⁶ *See California ISP Association v. Pacific Bell Telephone Co.*, Case No. 01-07-027, before the California Public Utilities Commission (filed July 25, 2001); *see also In the Matter of Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities*, CC Docket No. 02-33, Notice of Proposed Rulemaking (Feb. 15, 2002 (Earthlink and other ISPs have detailed BOC practices that favor the BOCs' ISP affiliates)).

with the incumbent LECs, thereby driving investment by both competitive and incumbent LECs.

2. Unbundling Obligations Have Not Significantly Reduced Incumbent LECs' Incentives to Invest in Broadband Facilities.

The ILECs' actions belie their claims that they will curtail their investments in broadband unless advanced services are exempted from the unbundling requirements of the 1996 Act. As the graph below demonstrates, unbundling clearly has had no adverse effect on the BOCs' incentives to deploy infrastructure. The graph, which is based on ARMIS data, shows the dollar amount spent by the BOCs on plant additions since 1991. The graph illustrates that the BOCs' investment in their plant actually increased dramatically after Congress first required the BOCs to open up their local networks in 1996. Thus, it is clear that unbundling obligations have not materially harmed the BOCs' incentives to invest in their networks.²⁶⁷

²⁶⁷ See *HAI Report* at pp. 90-96 (unbundling at economic cost will not deter facilities construction by ILECs); see also *See Illinois Bell Telephone Company Proposed implementation of High Frequency Portion of Loop (HFPL)/Line Sharing Service*, 00-0393, Illinois Commerce Commission, Order On Rehearing (Sept. 26, 2001) at 30 (*Illinois Order on Rehearing*). In addition, as the Illinois Commission has pointed out, the Commission's task is not to maximize the BOCs' incentives, "weigh any potential incremental costs of unbundling against the potential benefits associated with increased innovation and competition." *Illinois Order on Rehearing* at 30 (concluding that the potential benefits of increased innovation outweigh the additional costs associated with unbundling, especially in regard to end-to-end NGDLC UNE-P).



All data is adjusted to take mergers into account

Moreover, despite the presence of unbundling obligations, the BOCs continue to roll out DSL at a rapid rate. Verizon, for example, boasts that it has deployed DSL to central offices serving 79% of all access lines in its territory,²⁶⁸ and the other BOCs have continued to invest in DSL at similar rates.²⁶⁹ For instance, in 2001, BellSouth posted an annual growth rate of 189% for its DSL service and, in early 2002, announced that broadband is available to almost 70% of BellSouth households.²⁷⁰ Qwest reported a 74%

²⁶⁸ Verizon Press Release, "Verizon Communications Reports Solid Results for Fourth Quarter, Provides Outlook for 2002," January 31, 2002. Last year, Verizon reported a 122% increase in DSL customers from 660,000 in 2000 to 1.2 million in 2001 and data transport revenue growth of 21%, with revenues exceeding \$7 billion. *Id.*

²⁶⁹ See Qwest Press Release, "Qwest Communications Reports Fourth Quarter, Year-End 2001 Results," January 29, 2002; BellSouth Press Release, "BellSouth Reports Fourth Quarter Earnings," January 22, 2002; and SBC DSL Internet Updated, February 2002, available at www.sbc.com.

²⁷⁰ BellSouth Press Release, "BellSouth Reports Fourth Quarter Earnings," January 22,

increase in DSL subscribers and DSL revenue growth of 66% for 2001.²⁷¹ SBC, due in large part to its Project Pronto deployment, has increased its DSL subscriber base from 3,000 customers in 1998 to more than 1.3 million at the end of 2001.²⁷² SBC's data revenues grew by more than \$1.3 billion in 2001 reaching a total of \$8.8 billion.²⁷³

The BOCs' threats to cut broadband investment if regulators fail to meet their demands therefore ring hollow. Instead, these threats reflect the BOCs' market power. As a Texas Public Utility Commission arbitrator found in response to SWBT's threat to curtail its broadband investment if the Texas Commission required unbundling of SWBT's Project Pronto facilities:

This position, in and of itself, provides clear and convincing evidence that SWBT continues to possess market power and can unilaterally determine who receives, and far more compelling, who does not receive broadband services. . . . [T]his . . . provides additional support that meaningful competition can only be accomplished by allowing CLECs access.²⁷⁴

There is no question that some investment in local loop facilities must be made by the ILECs to enable broadband services. In some cases, where the basic loop infrastructure must be upgraded (such as by the deployment of fiber-fed NGDLC loop

2002. BellSouth finished 2001 with 620,500 DSL customers and reported annual data revenue growth of 24.9%. *Id.*

²⁷¹ Qwest Press Release, "Qwest Communications Reports Fourth Quarter, Year-End 2001 Results," January 29, 2002. By the end of 2001, Qwest had 448,000 DSL customers. *Id.*

²⁷² SBC DSL Internet Updated, February 2002, available at www.sbc.com. SBC boasts that it is "the nation's leading DSL Internet Access Service provider" offering DSL service to more than 60% of its customers out of nearly 1400 central offices. *Id.*

²⁷³ SBC Press Release, "SBC Reports Fourth-Quarter Earnings," January 24, 2002.

²⁷⁴ *Petition of Rhythms Links, Inc. Against Southwestern Bell Telephone Company for Post-Interconnection Dispute Resolution and Arbitration Under the Telecommunications Act of 1996 Regarding Rates, Terms, Conditions and Related Arrangements for Line Sharing*, Texas PUC Docket 22469, Revised Arbitration Award (Sept. 20, 2001) at pp. 74-75 ("Texas Arbitration Award").

facilities), these investments can only be made by the ILEC, due to the large economies of scale present in the loop portion of the telecommunications network. In other cases, where existing all-copper loop facilities can be used in the provision of advanced services, CLECs are capable of making the investments in the technology needed to enable broadband access, provided that they have access to loops, collocation in ILEC wire centers at reasonable rates, and access to operations support systems and other mechanisms necessary for the efficient provisioning of service. It is clear, however, that denying CLECs the UNEs necessary to provide broadband services will result in the continued exercise of market power by the ILECs, resulting in higher prices and a slower rate of innovation to the detriment of businesses, ISPs and residential consumers.²⁷⁵

3. Competitive DSL Offerings Depend on Access to Unbundled Local Loops

It is almost impossible to overstate the benefits derived from requiring the ILECs to provide unbundled access to local loops. The loop essentially serves as both a bottleneck and a gateway that connects the end user customer to a vast number of communications networks. As discussed throughout these comments, without access to the essential “last mile” facilities controlled by the ILECs, competitors would not be able to deliver their services to end users across America.

Competitors such as WorldCom, seeking to provide their services to end users, have no real alternatives to the use of unbundled loops.²⁷⁶ Depriving competitors of access to the incumbents’ local loops would therefore impair their ability to provide the services they seek to offer. WorldCom, for example, would be unable to provide broadband service using DSL or other technologies without access to unbundled loops

²⁷⁵ See *HAI Report* at p. 86.

²⁷⁶ *UNE Remand Order* at ¶ 181.

(provided using either all-copper or copper/fiber combinations) leased from the BOCs.²⁷⁷

The Commission should therefore reaffirm its findings regarding the local loop, including the definition of the loop set forth in the *UNE Remand Order*.²⁷⁸ The Commission should also clarify that that full NGDLC functionality – including DSLAM line cards at the remote terminal – falls squarely within the loop unbundling provisions of section 251(c)(3) and the Commission’s rules.

In unbundling the local loop, it is imperative that the Commission “apply the same requirements to all transmission facilities” and not “distinguish between copper [and] fiber.”²⁷⁹ A fiber-fed loop that traverses a remote terminal is still a “loop” and must be unbundled in the same manner as any other loop. As the FCC concluded only a year ago after analyzing NGDLC platforms,²⁸⁰ competitive LECs are impaired without access to the entire loop, including the fiber component.²⁸¹ Similarly, the Commission has already concluded that competitive LECs are impaired without access to subloops.²⁸²

²⁷⁷ WorldCom relies on the local loop to provide businesses with premium-grade DSL services unmatched by other providers. WorldCom’s Enterprise DSL offering allows customers with many, dispersed locations (*e.g.*, gas stations, retail chains, etc.) to obtain high-speed access to WorldCom’s data network, enabling their employees to access applications from multiple locations. *Graham Declaration* at 10. These product offerings, along with the additional products referenced in the attached *Graham Declaration*, would not be available but for WorldCom’s access to the last mile unbundled loop.

²⁷⁸ *UNE Remand Order* at ¶¶ 162-229.

²⁷⁹ *NPRM* at ¶ 50.

²⁸⁰ As used in these comments, NGDLC refers to a fiber-fed DLC system supporting both voice and data services, with multi-Megabit data rate capability. See Joint Declaration of Tom Stumbaugh and David Reilly, provided here as Attachment D (*Stumbaugh/Reilly Declaration*) at ¶ 12-13.

²⁸¹ *In the Matter of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket Nos. 98-147, 96-98, Order on Reconsideration, para. 10 (rel. January 19, 2001) (*Line Sharing Reconsideration Order*).

²⁸² *Line Sharing Reconsideration Order*, n. 13, n. 19.

The Commission should affirm these prior holdings. In doing so, the Commission should not distinguish between existing [loop] facilities and new construction. Such a distinction would be inconsistent with a statutory scheme enacted to “encourage the rapid deployment of *new communications technologies*.”²⁸³

The Commission asks whether there are “less burdensome” alternatives than the current loop unbundling rules that are consistent with the 1996 Act.²⁸⁴ There is no evidence to indicate that the current unbundling rules are “burdensome.” In fact, there is no technical difference between the BOCs’ provisioning of UNE loops to competitors and loops used to provide retail service to its end users.

a) The High Frequency Portion of the All-Copper Loop (Line Sharing & Line Splitting)

In its *Line Sharing Order*, the Commission took an important step toward accelerating the deployment of broadband services to residential and small business customers by requiring ILECs to unbundle the high-frequency portion of the local loop to enable competitors to provide voice-compatible DSL-based services over existing phone lines.²⁸⁵ After analyzing a full record amassed over nearly a year, the Commission concluded that competitors are impaired without access to the high frequency spectrum of an all-copper local loop.²⁸⁶ As explained below, the factors that the Commission relied on in reaching that decision have not changed in the months since the line sharing rules became effective.

²⁸³ Telecommunications Act of 1996 Preamble (emphasis added).

²⁸⁴ *NPRM* at ¶ 48.

²⁸⁵ *Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket Nos. 98-147, 96-98, Report and Order (Dec. 9, 1999) (*Line Sharing Order*).

²⁸⁶ *Line Sharing Order* at ¶¶ 25-61.

First, it still is not feasible for competitors to self-provision loops.²⁸⁷ Second, data providers still cannot obtain the high frequency portion of the loop from sources other than the incumbent LECs.²⁸⁸ While it is possible for data providers to partner with competitive voice providers and engage in line splitting, operational details involving such arrangements still need to be resolved.²⁸⁹ Even if such partnerships were available, however, they would not provide competitive carriers access to the vast majority of potential customers who are reachable only over the incumbent LECs' ubiquitous local loop facilities. Third, it still is not possible as a practical, operational or economic matter, for competitors to lease a second loop to provide voice compatible xDSL-based services.²⁹⁰ For example, leasing a second loop is not possible in cases in which the ILEC has only a single loop available to an end user premises.²⁹¹ In addition, as the Commission recognized in its *Line Sharing Order*, a carrier would be at a competitive disadvantage if it had to lease a second loop to provide the same type of service that the ILEC is able to provide utilizing the existing loop.²⁹² Thus, it is clear that lack of access to the high frequency spectrum of an all-copper local loop still impairs a competitor's ability to provide voice-compatible DSL service (ADSL).

i. Line Sharing

As the FCC has explained, unbundling the high frequency portion of the all-copper loop promotes competition in the telecommunications market and stimulates the deployment of advanced telecommunications capability, in furtherance of the goals of the

²⁸⁷ See *Graham Declaration* at ¶ 34; *Line Sharing Order* at ¶ 37.

²⁸⁸ See *Line Sharing Order* at ¶ 53.

²⁸⁹ *Graham Declaration* at ¶ 33.

²⁹⁰ *Line Sharing Order* at ¶ 38.

²⁹¹ *Id.* (noting that where no facilities are available, competitors are precluded from providing the services they seek to offer).

²⁹² *Id.* at ¶ 39.

1996 amendments to the Act.²⁹³ The availability of line sharing has spurred and continues to spur investment by competitors as competitive data providers have invested in and deployed new equipment in central offices across the country in order to provide line sharing. Specifically, data providers have installed, or are installing, splitters (which allow the high frequency data traffic to be separated from the low frequency voice traffic) and ADSL DSLAM equipment in every ILEC central office in which they are collocated.

WorldCom, for instance, uses line sharing to provide DSL service.²⁹⁴ It offers both ISPs and businesses various products that utilize the high-frequency spectrum of the all-copper local loop. If WorldCom and other competitive carriers are denied access to line sharing, end user customers will have no alternative to incumbent LEC-provided DSL services. Competitive providers are impaired without access to the high frequency portion of the loop as a UNE. The line sharing requirements should therefore remain in place.

ii. Line Splitting

In the *Line Sharing Reconsideration Order*, the Commission required incumbent LECs to allow competing carriers to offer both voice and data services over a single unbundled loop.²⁹⁵ As with line sharing, nothing has changed to alter the need for the Commission's line splitting rules. If anything, the need for line splitting is likely to grow as penetration by competitive voice providers increases in response to state decisions that set pricing at levels that enable effective competition for local services. Moreover, the elimination of restrictions on UNE-P for small business would clear the way for line-

²⁹³ *Id.* at ¶ 54-57. The Commission recently reiterated this point in a brief filed with the D.C. Circuit. *United States Telecom Association, et al, vs. Federal Communications Commission and United States of America*, Brief of Respondents, D.C. Circuit, Nos. 00-1012 (Sept. 14, 2001) at p. 21.

²⁹⁴ *Graham Declaration* at ¶ 31-32.

²⁹⁵ *Line Sharing Reconsideration Order* at ¶ 18.

splitting offers to businesses. Although operational details associated with line splitting must still be resolved before WorldCom can attempt line splitting with competitive voice carriers,²⁹⁶ WorldCom is anxious to resolve these operational issues so that it can serve the growing number of end users served by competitive voice providers.²⁹⁷

In response to the Commission's question regarding whether its current line-splitting rules should be changed in any way,²⁹⁸ WorldCom notes that its MCI Mass Markets Group, which provides UNE-P service, continues to be frustrated by the absence of a requirement that permits CLEC voice and ILEC DSL combinations.²⁹⁹ More and more, customers with ILEC-provided DSL are seeking to change their voice service to MCI. Because the Commission declined to require the ILECs to continue providing DSL service to customers served by voice CLECs, MCI is not able to serve this growing base of customers. The Commission's latest statistics on DSL subscribership reveal the magnitude of this problem. The BOCs had 2.7 million ADSL lines in service as of June 30, 2001.³⁰⁰ Unless the Commission amends its line splitting rules to permit CLEC voice and ILEC (or ILEC data affiliate) DSL combinations, MCI will be foreclosed from serving millions of customers who may desire voice service from MCI and DSL service from an ILEC.

b) Line Sharing over Fiber

In its *Line Sharing Reconsideration Order*, the Commission clarified that incumbent LECs have an obligation to provide line sharing over loops served in part by fiber facilities and issued a *Further Notice* on the "feasibility of different methods of

²⁹⁶ Other than a small trial in New York, WorldCom has not attempted any line splitting arrangements with competitive voice carriers.

²⁹⁷ *Graham Declaration* at ¶ 33.

²⁹⁸ *NPRM* at ¶ 54.

²⁹⁹ *Line Sharing Reconsideration Order* at ¶ 26.

³⁰⁰ *See FCC High Speed Stats* at Table 5.

providing line sharing where an incumbent LEC has deployed fiber in the loop.”³⁰¹ On February 27, 2001, Covad, Rhythms and WorldCom filed joint comments on issues relating to line sharing over fiber and requested that the FCC clarify its rules to make clear that full NGDLC functionality, including DSLAM line cards at the remote terminal, falls squarely within the loop unbundling provisions of section 251 (c)(3) and the Commission’s rules. Since WorldCom and others filed comments on this issue a year ago, nothing has changed with respect to the technical feasibility of line sharing over fiber. What has changed, however, is the magnitude of the BOCs’ deployment of fiber-fed loops capable of supporting DSL services. Since the 1980s, the loop has been evolving from copper to fiber. Thus line sharing over fiber is increasingly important.

c) Fiber-Fed Loops/SubLoops

As discussed below and in the attached *Stumbaugh/Reilly Declaration*, the BOCs are aggressively rolling out fiber-fed NGDLC loop technology that can support a variety of DSL types, including ADSL, HDSL-2 and G.shdsl. As a result, the local bottleneck is moving from the central office to the remote terminal.

The only way competitors can provide DSL service to the growing customer base served by NGDLC platforms is by gaining access to the end-to-end loop, including the electronics at the remote terminal. The FCC should therefore reaffirm its past finding that the loop is “not limited to facilities, but includes features, functions, and capabilities,”³⁰² such as electronics located at remote terminals (RTs). Alternatively, as discussed below, the FCC should find that competitors are impaired without access to the electronics that the incumbent LECs have deployed in the RTs and rule that CLECs are

³⁰¹ Third Further Notice of Proposed Rulemaking in CC Docket No. 98-147 and Sixth Further Notice of Proposed Rulemaking in CC Docket No. 96-98 (Jan. 19, 2001).

³⁰² *UNE Remand Order* at ¶ 175.

entitled to two separate UNEs: 1) the loop, which includes fiber/copper combinations; and 2) packet switched transport to and from the RT.³⁰³

i. Remote Terminals Are Fast Becoming the New Bottleneck

In the fiber-fed NGDLC architecture, remote terminals have replaced central offices as the network bottlenecks. As the Commission has already observed, “the remote terminal has, to a substantial degree, assumed the role and significance traditionally associated with the central office.”³⁰⁴ Indeed, approximately 35 percent of all access lines in the U.S. already travel through digital loop carrier (DLC) systems today and the national average is projected to increase to 50 percent by 2004.³⁰⁵ Consequently, if CLECs are restricted to offering DSL-based services using only central office-based DSLAM equipment connected to all-copper loops, they will be prevented from serving a significant portion of the market. Such a result would clearly be at odds with the underlying purpose of the Act.

³⁰³ For purposes of this pleading, “packet switched transport to and from the RT,” includes the ILEC DSLAM and associated ATM transport from the RT to the CO in addition to a port on the ILEC’s optical concentration device in the Central Office.

³⁰⁴ *UNE Remand Order* at ¶ 218; *see also DSL Anywhere*, DSL Forum at 7 (December 12, 2001), available at <http://www.ntia.doc.gov/ntiahome/broadband/comments/dslf/dsl_anywhere.pdf> (*DSL Anywhere*) (citing RHK 2000 Access Network System Market Forecast, Feb. 29, 2000).

³⁰⁵ *See Stumbaugh/Reilly Declaration* at ¶ 16. Nearly 44 percent of the total access lines in BellSouth’s territory already traverse DLC platforms. *See Optical Access: North America, Service Provider Analysis: BellSouth, Qwest, SBC, and Verizon – Deployment and Trends for DLC and PON*, RHK Telecommunications Industry Analysis (Dec. 2001) at 5 (“*Deployment and Trends for DLC and PON*”).

ii. DLC and NGDLC Platforms

Typically, NGDLC systems begin with copper cables (*i.e.*, twisted pair) running from the customer premises to a RT. The RT is, in turn, connected to the Central Office (CO) via a fiber backhaul.³⁰⁶ At the CO, the data stream terminates at an ATM switch, which some BOCs refer to as an Optical Concentration Device (OCD), and the voice circuits terminate at the Class 5 switch.

DSL signaling, however, was designed for use over an all-copper twisted-pair transmission path. Therefore, when a fiber link is inserted in the path to the subscriber, the raw DSL signal cannot propagate in its native form and additional electronics are necessary. Accordingly, in NGDLC systems, equipment with DSLAM capabilities must be placed at the RT, rather than at the CO, because that is where the copper portion of the loop begins.³⁰⁷ DSL signals are also distance sensitive. Specifically, DSL data rates are distance-limited: the closer the subscriber is to the DSLAM, the faster the DSL service.³⁰⁸ Thus, deploying DSLAM functionality in the RT closer to the subscriber, improves the speed of the service by shortening the length of the copper loop connecting the customer to the DSLAM.³⁰⁹

Demand for DSL services is increasing, and NGDLC systems allow for more subscribers (by extending the distance a subscriber can be located from the CO, thus affording even distant subscribers DSL access) and higher bit rates (by moving the DSLAM functionality closer to the subscriber). As a result, the BOCs are rolling out NGDLC systems at a blistering pace. SBC's \$6 billion NGDLC rollout ("Project

³⁰⁶ This backhaul may involve one fiber carrying both voice and data or multiple fiber strands, each dedicated exclusively to either voice or data.

³⁰⁷ See *Stumbaugh/Reilly Declaration* at ¶ 14.

³⁰⁸ See *id.* at ¶ 12.

³⁰⁹ *Id.* at ¶ 18.

Pronto”) illustrates this trend.³¹⁰ Project Pronto will allow SBC to provide DSL service to an additional 20 million customers in its 13-state territory.³¹¹ In its California territory alone, for example, SBC plans to upgrade 300 of its 750 central offices with NGDLC architecture within the next four years.³¹²

Given the pace of NGDLC rollout and the advanced services bottleneck the NGDLC architecture creates at the RT, it is imperative that the FCC clarify that its unbundling rules apply to all loops – particularly those that pass through RTs – and all of their features and functionalities, including the electronics necessary to provide DSL over fiber-fed loops.

d) No Viable Alternatives Exist for Competitors to Access Fiber-Fed Loops

i. Collocation at the Remote Terminal is Not Feasible

Remote Terminals, unlike Central Offices, generally lack adequate space to allow for collocation of traditional DSLAMs.³¹³ While CLECs continue to need the option of collocating DSLAMs at the RT,³¹⁴ this option will usually not be the most efficient or effective way to provision DSL over fiber-fed loops. The network architecture chosen by both SBC and Verizon clearly demonstrates this point: both ILECs have chosen to deploy NGDLCs with integrated DSLAM functionality rather than separate DSLAMs located at the RT. In addition, because RTs serve far fewer subscribers than COs, the

³¹⁰ See *Illinois Order on Rehearing* at 20.

³¹¹ See *Investigation into Ameritech Wisconsin's Unbundled Network Elements*, Public Service Commission of Wisconsin, Public Service Commission of Wisconsin Docket 6720-T1-161, Final Decision at 10 (March 22, 2002) (*Wisconsin Decision*).

³¹² See *Stumbaugh/Reilly Declaration* at ¶ 6.

³¹³ See *id.* at ¶ 26.

³¹⁴ In some instances, it may make economic sense for WorldCom to collocate a DSLAM at a Remote Terminal. For example, if WorldCom secured a large customer that was served off of an RT, it might be practical for WorldCom to collocate its own equipment in the RT.

cost per subscriber is considerably higher when the DSLAM is located in the RT than when it is located in the CO. The BOCs, moreover are designing and deploying NGDLC RTs so that there is no space for CLEC equipment.

The ILEC answer to the RT space problem – that CLECs procure adjacent remote terminals –is economically unworkable.³¹⁵ Land-use restrictions also pose substantial obstacles to adjacent collocation. ILECs often install Remote Terminal equipment on privately-owned premises where land-use restrictions arise from rights-of-way, easement and zoning requirements.³¹⁶ Before a CLEC can place equipment in an adjacent collocation arrangement, agreements must be secured with the landowner and permits must be obtained from local municipalities. Unlike ILECs, which have historical access based on their monopoly status, CLECs may not be able to gain authorization and permits from local municipalities and private landowners to build adjacent RTs. Imposing these requirements on CLECs will place an unacceptable burden on competition.³¹⁷

In addition, the BOCs have designed their networks in a way that raises the costs of collocating at RTs. For example, in designing Project Pronto, SBC unnecessarily elected to hard wire its Remote Terminals. As a result, even where it is otherwise technically feasible to collocate at the RT, SBC requires CLECs to pay between \$15,000 and \$30,000 per RT for “engineering controlled splices” to connect their DSLAMs to the ILEC's copper feeder facilities. These expenses render collocation at SBC's RTs economically infeasible.

The *Texas Arbitration Award* provided an illuminating discussion of SBC/SWBT's design of the RT and the problems associated with DSLAM collocation:

³¹⁵ See *Stumbaugh/Reilly Declaration* at ¶ 27.

³¹⁶ *Id.*

³¹⁷ *Id.*

[B]ecause of the way SWBT has designed Project Pronto, CLECs are in essence denied the ability to collocate DSLAMs at SWBT remote terminal (RT) sites. . . . [B]ecause SWBT chose to hard wire the RT, a CLEC may have to pay between \$15,000 and \$30,000 per remote terminal for access to the subloop. Uncontroverted evidence in this record indicates that SWBT designed the RTs in such a manner as to preclude any reasonable CLEC access to sub-loops at the RT even though vendors manufacture RTs with cross-connect functions that allow access to subloops. The simple fact that SWBT has hardwired its equipment at the RT and CLECs will be forced to pay for a work-around or to build adjacent collocation space supports a finding that SWBT cannot meet its burden to be relieved of its unbundling obligation. In sum, the evidence presented to the Arbitrators indicates that collocating a DSLAM at the remote terminal will in most cases not only prove to be uneconomical, but also technically problematic.³¹⁸

SBC's affiliate, ASI, on the other hand, can access subloops through Project Pronto at zero incremental cost. Assuming 20 RTs per CO,³¹⁹ and an average cost of \$22,500 (the average of \$15,000 and \$30,000), CLECs would need to spend \$450,000 *per central office* in unnecessary collocation costs.³²⁰

Verizon has indicated a general intent to model its system after SBC's Project Pronto.³²¹ WorldCom thus anticipates a repeat of many of the obstacles that have been encountered with SBC. Indeed, the New York Public Service Commission has already ruled that it is uneconomical for CLECs to collocate at Verizon's RTs.³²²

³¹⁸ *Texas Arbitration Award* at p. 66 (citations omitted). The Illinois Commission arrived at much the same conclusion as the Texas arbitrators. *Illinois Order on Rehearing* at 36.

³¹⁹ SBC's February 2000 submission to the FCC requesting a waiver of the merger conditions precluding it from owning OCDs and NGDLC line cards. *See* letter from Paul K. Mancini, SBC to Mr. Larry Strickling, FCC CC Docket No. 98-141 (Feb. 15, 2000).

³²⁰ *See Stumbaugh/Reilly Declaration* at ¶ 30.

³²¹ *See* Verizon California, Inc.'s opening testimony filed January 25, 2002, in CPUC Docket No. R.93-04-003/193-04-002.

³²² New York Public Service Commission, Opinion No. 00-12, Case 00-C-0127, *Proceeding on Motion of the Commission to Examine Issues Concerning the Provision of*

ii. Use of Existing Copper is Not a Viable Option

As another alternative to unbundled access, ILECs propose that CLECs simply use existing copper loops that run alongside fiber feeder through the RTs to the customer's premises. This option is technically possible when the ILEC installs a DLC system and leaves some of the old copper loops in the ground, so that they run from the CO through the RT to the original customer.³²³

However, this alternative is not viable for two reasons. First, the potential for interference from the ILEC's RT-based service is far too great. The CLEC-transmitted copper cable signal would be significantly attenuated by the time it reached the distribution cable, where it would be joined by a very strong signal generated by the ILEC's RT-based service. Because of the difference in magnitude, the ILEC signal would drown out the CLEC signal.³²⁴

Secondly, the "existing copper loop" may no longer exist. Once fiber is installed, the ILECs typically re-use the existing copper on the feeder side of the RT to serve customers between the CO and the RT. As a result, the "old" copper loop no longer exists. Thus, the copper feeder portion of the loop is recycled so that it can be used by another customer closer to the CO and the distribution portion now connects the RT to the customer. As a result, the copper loop no longer exists but the copper is still in the ground. Because of this reality, BOCs can commit to leaving copper in the ground, while simultaneously refusing to provide CLECs with a copper loop.³²⁵ Indeed, the Public Service Commission of Wisconsin recently recognized that "Ameritech will have

Digital Subscriber Line Services, Opinion and Order Concerning Verizon's Wholesale Provision of DSL capabilities (Oct. 31, 2000) at 25 ("collocation by competitors on the terms offered by Verizon's tariff at these remote terminals is under many circumstances prohibitively costly and slow, and unlikely to be commercially viable.")

³²³ See *Stumbaugh/Reilly Declaration* at ¶ 33.

³²⁴ See *id.* at ¶ 33.

³²⁵ See *id.* at ¶ 34.

an incentive to retire or simply not maintain the copper plant because it is inefficient to maintain two loop networks simultaneously.”³²⁶

- e) *ILECs Should Either Be Required to Unbundle the End-to-End NGDLC Loop, Including All its Features, Functions, and Capabilities, or, Alternatively, to Unbundle Both the NGDLC Loop and the DSLAM.*

The ILECs are using the widespread rollout of NGDLC systems to frustrate competition. To guard against RTs becoming the next bottleneck, the Commission must ensure that competitors have access to the end-to-end NGDLC loop. In addition, the Commission should expressly find that the DSLAM functionalities and electronics located at the RT are encompassed within the features, functions, and capabilities of the NGDLC loop. Alternately, the Commission should find that competitors are impaired without access to the electronics that the incumbent LECs have deployed in the RTs and rule that CLECs are entitled to two separate UNEs: 1) the loop, including all NGDLC fiber/copper combinations; and 2) packet switched transport, to and from the RT.

i. ILECs should be required to Unbundle the End-to-End NGDLC Loop

The loop should remain available to CLECs as a UNE regardless of loop architecture. Otherwise, a CLECs’ business plans would be dependent on the whim of the ILEC. Whether it is all copper or a fiber-copper combination, a loop is still a loop and CLECs will still be impaired without access to that loop. Texas Commission arbitrators recognized this fact in awarding CLECs access to the end-to-end NGDLC UNE Loop. As explained in the *Texas Arbitration Award*, the introduction of fiber into loop plant does not change the underlying nature of the transmission facility; “it is still a loop.”³²⁷ Acknowledging that the FCC had already determined that “CLECs are

³²⁶ *Wisconsin Decision* at p. 10.

³²⁷ *Texas Arbitration Award* at pp. 68-69 (citations omitted).

impaired without access to the unbundled loop element,” the arbitrators went on to find that, consistent with Commission precedent, “a loop is a loop, regardless of whether it is all copper or a combination of copper and fiber.”³²⁸ Thus, it is clear that the “loop” includes fiber-fed DLC platforms and that CLECs will be impaired without access to loops that are provided on such platforms.³²⁹ The Commission should now reaffirm its ruling that the subloop element includes, at a minimum, the fiber feeder between the RT and the CO and the copper loop between the RT and the customer’s premises.

ii. Remote Terminal NGDLC Functionalities and Electronics Fit Squarely Within the Commission’s Existing Definition of the Loop

The Commission has recognized that access to loops would be meaningless if competitive LECs were forced to construct parallel networks in order to gain that access.³³⁰ The Commission has also concluded that loops that pass through remote terminals include electronic capabilities – such as multiplexing – that are integral to the functioning of the loop, and thus fit within the definition of the loop.³³¹ The remote terminal electronics thus are part of the loop itself – they are “features, functions, and capabilities” of the loop and fall squarely within the incumbent LECs’ unbundling obligations. Therefore, the Commission should now reevaluate its decision to exclude DSLAM functionalities from the loop definition, in the face of rapid incumbent LEC deployment of NGDLC architectures.

³²⁸ *Texas Arbitration Award* at pp. 68-69 (citations omitted).

³²⁹ Although the BOCs have argued that unbundling will undermine their incentives to deploy NGDLC platforms, experience shows that this argument is completely without merit. *See* discussion above, *infra* at § III.D.2.

³³⁰ 47 U.S.C. § 251(c); *see also Local Competition Order* at ¶ 366.

³³¹ *UNE Remand Order* at ¶ 175 (including attached electronics [other than DSLAMs] within the definition of a “loop.”).

When it excluded DSLAM functionalities from the incumbents' unbundling obligations, the Commission envisioned that both incumbent LECs and competitive LECs would install their own DSLAMs at the remote terminal and access all NGDLC functionalities through that DSLAM. At the same time, the FCC recognized that the linchpin of such functionality would be the ability to offer the "same level of quality for advanced services."³³² The Commission therefore ruled that if competitive LECs could not deploy DSLAMs, incumbent LECs would have to provide DSLAM functionality in remote terminals, and that "the incumbent will be relieved of this unbundling obligation only if it permits a requesting carrier to collocate its DSLAM in the incumbent's remote terminal, on the same terms and conditions that apply to its own DSLAM."³³³ It is now clear, however, that it is impractical for CLECs to install their own DSLAMs at RTs. As discussed in detail above, and as several state commissions have recognized, it is prohibitively expensive for competitive carriers to collocate DSLAMs at the RT. Consequently, the Commission should revisit its prior decision in the *UNE Remand Order* and require the ILECs to unbundle the functionalities of their RT-based DSLAMs, whether the ILEC uses a separate DSLAM or integrates DSLAM functionality into its NGDLC equipment, as part of the local loop.

As the Commission has already recognized, the DSLAM functionality is an integral part of the functionality of NGDLCs currently being deployed by incumbent LECs. The Commission should further clarify that access to DSLAM functionalities includes access to the DSLAM line card. Indeed, granting competitive LECs access to every functionality in the NGDLC *except* the DSLAM line card is a hollow gesture. As the Commission concluded in the *Project Pronto Order*:

³³² *Id.* at ¶ 313.

³³³ *Id.*

An NGDLC system typically contains several “channel bank assemblies,” which are multiplexers used to provide service to end users. In each channel bank assembly, a carrier “plugs in” cards that are used to provide specific telecommunications services. . . . The ADLU Card is a plug-in card used to provide ADSL service from an NGDLC system. The ADLU Card works in conjunction with other plug-in cards and software to provide such service.³³⁴

A carrier seeking to provide competitive DSL service through an NGDLC will not be able to access the end user if it does not have access to the DSLAM line card, or, for ADSL, the ADLU. As discussed further below, the Commission could not have intended such an outcome to result from its DSLAM carve-out in the *UNE Remand Order*. As the Commission recognized a year later in the *Project Pronto Order*, “the plug-in ADLU Card is an indispensable component for providing ADSL service through the manufacturer’s NGDLC system; without the plug-in ADLU Card in the NGDLC system, a carrier would have to collocate other equipment (e.g., a DSLAM) in the remote terminal to provide DSL service to consumers served by such remote terminals.”³³⁵ Clearly, technology is changing, and the Commission’s prior view that a competitive LEC could simply collocate a DSLAM in a remote terminal and access all of the features, functions, and capabilities of the loop by means of that collocated DSLAM has been shown to be infeasible.

The Commission must, as it promised to do, reevaluate its rules in the face of these technological changes. Specifically, the Commission should confirm that remote terminal electronics are inherent features, functions, and capabilities of the loop. As a result, incumbent LECs should be required, pursuant to section 251(c)(3) of the Act, to

³³⁴ *Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Ameritech Corporation, Transferor, to SBC Communications, Inc., Transferee*, Second Memorandum and Order, 15 FCC Rcd 17521 (Sept. 8, 2000) at ¶ 4 note 11 (*Project Pronto Order*).

³³⁵ *Project Pronto Order* at ¶ 14.

provide unbundled access to all remote terminal functionalities of the loop, including all DSLAM electronics and the functionalities therein.

In addition, the Commission should make clear that the software and other OSS that manages the remote terminal functionalities must be available as integral parts of the loop. Without access to those capabilities, requesting carriers will be unable to manage their customer's particular services.

iii. Alternatively, the Commission Should Find that CLECs Are Impaired Without Access to ILEC RT-Based DSLAMs

In the *UNE Remand Order*, the Commission required incumbent LECs to unbundled packet switching (DSLAMs) only under certain circumstances.³³⁶ In the *NPRM*, the Commission seeks comment on whether it should retain this carve-out and, if so, whether it should modify the requirement or the existing definition for this network element.³³⁷ As demonstrated earlier, collocation at the RT is not feasible and existing copper loops are not a viable substitute for access to NGDLC loops. Thus, if the Commission declines to define the loop to include all its features, functions, and capabilities, including DSLAM functionalities, it is essential that CLECs instead be afforded unbundled access to packet switching to and from RT, which includes ILEC DSLAMs. Under this alternative proposal, the Commission should dispose of the four exceptions required to gain access to packet switching,³³⁸ and replace them with a carve-out expressly applicable to "RT-based DSLAMs." As discussed below, this is wholly consistent with the underlying reasoning for the four conditions contained in the *UNE Remand Order*.

³³⁶ See *UNE Remand Order* at ¶ 313. This rule is referred to as the DSLAM or packet switching carve-out and is codified at 47 C.F.R. § 51.319(c)(5).

³³⁷ *NPRM* at ¶ 61.

³³⁸ We note that, in any event, the Texas Arbitrators found that RT-based DSLAMs do meet the exceptions. See *Texas Arbitration Award* at p. 70.

In the *UNE Remand Order*, the Commission required packet switching to be unbundled “in locations where the incumbent has deployed digital loop carrier (DLC) systems.”³³⁹ The FCC reasoned that, “[i]n this situation, and where no spare copper facilities are available, competitors are effectively precluded altogether from offering xDSL service if they do not have access to unbundled packet switching....”³⁴⁰ Accordingly, the Commission ruled that incumbent LECs must provide requesting carriers with access to unbundled packet switching in situations in which the incumbent has placed a DSLAM in a remote terminal, noting that the incumbent will be relieved of this unbundling obligation “only if it permits a requesting carrier to collocate its DSLAM in the incumbent’s remote terminal, on the same terms and conditions that apply to its own DSLAM.”³⁴¹

The DSLAM carve-out was constructed originally for RT-based DSLAMs. The carve-out requires packet switching to be unbundled only when each of the following four conditions are met:

- (i) The incumbent LEC has deployed DLC systems or any other system in which fiber optic facilities replace copper facilities in the distribution section;
- (ii) There are no spare copper loops capable of supporting xDSL services the requesting carrier seeks to offer;
- (iii) The incumbent LEC has not permitted a requesting carrier to deploy a DSLAM in the remote terminal or other interconnection point, and the requesting carrier has not obtained a virtual collocation arrangement at the subloop interconnection points; and
- (iv) The incumbent LEC has deployed packet switching capability for its own use.³⁴²

³³⁹ *UNE Remand Order* at ¶ 313.

³⁴⁰ *Id.*

³⁴¹ *Id.*

³⁴² 47 C.F.R. § 51.319(c)(5); *UNE Remand Order* at ¶ 313.

Clearly conditions (i) and (iv) are easily satisfied, since NGDLC platforms are, by definition, “digital loop carrier system[s],” involving packet switching (i.e., the RT-based DSLAM) the ILEC has deployed “for its own use.” However, condition (ii) is meaningless in the context of NGDLC. As shown above, existing “spare” copper loops, left in the ground after ILECs deploy DLCs, are not a viable alternative to unbundled access to the RT-based DSLAM. In addition, CLECs will be denied access to those customers that could be served from an RT-based DSLAM, but that are too far away for CO-based service. Thus, these “spare loops” are not capable of supporting xDSL services that competitive carriers seek to offer.

Condition (iii) is also meaningless because RT-collocation, as a practical matter is not economically feasible. Moreover, there is evidence that the BOCs have designed their RTs in such a way so as to preclude CLEC access.³⁴³ This is tantamount to “not permit[ting] a requesting carrier to deploy a [DSLAM] ... in the remote terminal.” As a result, RT-based DSLAMs should be made available to requesting carriers.

E. Specific UNEs Not Covered Above

1. NID and Inside Wire

Competitive local exchange companies (CLECs) will be impaired in their ability to provide financially viable competitive local service unless they retain the ability to gain access to the network interface device (NID)³⁴⁴ and ILEC inside wire in a building.³⁴⁵ Access to these unbundled network elements is critical due to the delays and discrimination CLECs have encountered gaining access to multiple tenant environments (MTEs) via facilities-based strategies. As discussed above, MTE owners regularly

³⁴³ See *Texas Arbitration Award* at 66.

³⁴⁴ 47 C.F.R. § 51.319(b).

³⁴⁵ 47 C.F.R. § 51.319(a)(2)(1).

impose unreasonably high entry rates on CLECs compared to ILECs and fail to negotiate with CLECs access requests on a timely basis. Consequently, CLEC access to the ILEC's NID and/or intrabuilding wire is often the only means by which a CLEC can quickly offer service to customers located in MTEs.

CLECs need access to the NID as an unbundled element when using an ILEC unbundled loop to a single demarcation point, either at a single premise unit or at an MTE where the owner has established a single minimum point of entry (MPOE).³⁴⁶ It would be prohibitively expensive for a CLEC leasing unbundled ILEC loops to single unit premises to dispatch technicians to each unit to install a new NID, and it would be wasteful to impose on new entrants the costs both of disconnecting loops and NIDs that are normally combined in ILEC networks and of installing new and unnecessary NIDs. Where an MTE owner has not established a single MPOE, the wire between the NID and the customer's premise often belongs to the ILEC. CLECs leasing unbundled loops also require access to this intrabuilding wire in order to bring service to the end user.

2. Signaling Networks and Call-Related Databases

There is no basis for reversing or altering the Commission's determination in the *UNE Remand Order* that requesting carriers would be impaired without access to ILECs' signaling networks and call-related databases.³⁴⁷

a) *Signaling Networks.*

Signaling networks are an essential component of today's telecommunications networks. Signaling networks transmit routing messages between switches and between switches and call-related databases.³⁴⁸ Signaling links enable a switch to send queries to call-related databases, which provide the switch with customer information or

³⁴⁶ 47 C.F.R. § 68.105.

³⁴⁷ *UNE Remand Order* at ¶¶ 383, 402, 433. See 47 C.F.R. §§ 51.319(e), (g).

³⁴⁸ Declaration of Bernard Ku, provided here as Attachment E (*Ku Declaration*) at ¶ 3.

instructions for call routing. The databases contain information such as whether a customer will accept collect calls, where calls should be routed when the called number has been ported, where toll-free calls should be routed, and the customer names associated with particular numbers – information that is used for Caller ID.

When a CLEC purchases ILEC switching, a CLEC's need for ILEC signaling is absolutely critical.³⁴⁹ An ILEC's switching element works in tandem with the ILEC's signaling network; thus, unbundled ILEC switching is simply inoperable without access to the ILEC's corresponding signaling network.³⁵⁰ ILECs therefore must continue to unbundle their signaling networks in connection with unbundled switching.

Even when the CLEC is using its own switch, ILECs must provide requesting carriers with unbundled access to the ILEC's signaling network. Although CLECs using their own switches theoretically could create their own signaling network or use that of a third-party vendor, the Commission has concluded that "requiring a requesting carrier to obtain signaling from alternative sources would materially diminish its ability to provide the services it seeks to offer, due to the quality differences between the signaling networks available from the incumbent LEC and those available from alternative providers of signaling."³⁵¹ Nothing has changed since the Commission issued the *UNE Remand Order* that would alter this conclusion.³⁵² Third-party signaling networks are not as ubiquitous as the networks of the ILECs and do not have the redundancy required to protect against harms caused by outages. Third-party vendors at this time only have geographically dispersed (*i.e.*, not local) STPs,³⁵³ which are typically used by smaller long distance networks.

³⁴⁹ *Ku Declaration* at ¶ 4.

³⁵⁰ *Id.* at ¶ 4.

³⁵¹ *UNE Remand Order* at ¶ 383.

³⁵² *Ku Declaration* at ¶¶ 2, 5.

³⁵³ An STP is a signal transfer point – in effect a signaling switch.

Regardless of the quality of alternative signaling networks, CLECs must always have access to the ILECs' signaling networks to route their calls and access call-related databases.³⁵⁴ For example, when a call travels from the CLEC's network to the ILEC's network, the CLEC must be able to transmit signals through the ILEC's signaling network to determine which routes are least congested at a particular moment, and thus determine the best routing for a call. Moreover, because an ILEC's call-related databases are connected to the ILEC's signaling network, the CLECs need access to the network in order to obtain the information in the databases.³⁵⁵

Thus, CLECs forced to obtain signaling from a third party rather than the ILEC would suffer diminished performance. Finally, if CLECs were not ensured access to ILEC signaling networks when they deployed their own switches and were instead forced to rely on inferior alternatives, many CLECs likely would refrain from deploying their own switches. Requiring unbundling of signaling networks would therefore remove a significant disincentive to such deployment and thus help spur switch-based competition.

b) Call-Related Databases.

The Commission should continue to require unbundling of ILECs' call-related databases, because competitors would be materially impaired in offering services if denied access to these databases. Nothing has changed since the *UNE Remand Order* to warrant a change in the rule that ILECs must unbundle call-related databases.³⁵⁶ As noted above, one of the primary functions of a signaling network is to access call-related databases that supply information or instructions used for billing or routing of calls or provisioning of various features. Call-related databases include, but are not limited to, the Toll Free Calling Database, 911 Database, LIDB, AIN Databases, Calling Name

³⁵⁴ *Ku Declaration* at ¶ 6.

³⁵⁵ *Id.*

³⁵⁶ *Id.* at ¶ 2.

(CNAM) database, Operator Services/Directory Assistance (OS/DA) databases, and number portability databases.

A CLEC that is using unbundled switching must, of necessity, use the ILEC's call related databases.³⁵⁷ The ILEC switch cannot query the ILEC databases for calls originating with ILEC customers and CLEC databases for calls originating with CLEC customers.³⁵⁸ A CLEC that is using its own switches also must be able to access ILEC databases, because there are no alternatives of comparable quality and ubiquity to the ILECs' databases.³⁵⁹ Moreover, much of the information contained in the ILEC databases to which CLECs need access simply cannot be duplicated by a CLEC or third-party vendor.³⁶⁰ A CLEC or third-party vendor cannot develop its own LIDB without access to the ILEC's LIDB, for example.³⁶¹

Even where it is theoretically possible for CLECs to duplicate the ILECs' call-related databases, it would significantly impair competition to require them to do so immediately. CLECs generally lack the economies of scale needed to justify developing such databases at present.³⁶² In addition, it takes time and significant capital to develop these databases. Even if CLECs eventually were able to develop these databases, precluding CLECs from accessing ILEC databases before they develop the necessary databases on their own would preclude CLECs from offering services to their customers that depend on the information in these databases. This would significantly harm CLECs

³⁵⁷ *Id.* at ¶ 7.

³⁵⁸ *Id.* at ¶ 4.

³⁵⁹ *Id.* at ¶ 8.

³⁶⁰ *Id.*

³⁶¹ *Id.*

³⁶² *Id.* at ¶ 9.

who are already in the market. It would also constitute a significant barrier to market entry given the economies of scale in establishing these databases.³⁶³

c) Access to the CNAM Database.

The Commission clarified in the *UNE Remand Order* that CNAM is a call-related database, and that ILECs must provide access to it as a UNE.³⁶⁴ The Commission required access to CNAM, and other call-related databases, to be provided by means of physical access at the signal transfer point (STP) linked to the unbundled database. The Commission did not specifically address whether download or bulk access, as opposed to per-query access, is required, however. As a result, some state commissions have found that the FCC's rules do not require ILECs to provide CNAM downloads when requested.³⁶⁵ The Commission should specify that ILECs are required to provide access to call-related databases, such as CNAM, via batch downloads, so that switch-based CLECs can maintain their own CNAM databases.

CNAM is a database that contains the name of the customer associated with a particular telephone number. Access to the ILEC's CNAM database information is critical in order for a competitor to provide services such as Caller ID. When a terminating customer has Caller ID, a query is sent from the terminating switch to the CNAM database to retrieve CNAM information about the calling party (name and number), which is then displayed to the terminating subscriber. ILECs are the sole providers of CNAM database information for the vast majority of local customers.³⁶⁶

³⁶³ *Id.* at ¶¶ 9-10.

³⁶⁴ *UNE Remand Order* at ¶ 406.

³⁶⁵ See *Qwest Communication, Inc.'s Section 271 Application*, ACC Docket No. T-00000 A-97-0238, Second Supplemental Report on Qwest's Compliance With Checklist Item No. 10, ¶ 55 (Feb. 28, 2000) ("The FCC has defined call-related databases and held that this element is accessed through the Signaling Transfer Point (STP), not via a bulk download.")

³⁶⁶ Joint Declaration of John Gallant and Michael Lehmkuhl, provided here as

Thus, competitive carriers must have access to the information in the ILEC's CNAM database to determine the originating number for most calls. Clearly, CLECs would be impaired in their ability to offer service without access to the ILECs' CNAM databases on an unbundled basis.

Indeed, for switch-based CLECs to have access to this UNE in a nondiscriminatory manner, they must have access to the CNAM database via batch download.³⁶⁷ Access to the database via batch downloads will enable competitors to create their own CNAM databases, thereby providing competitors the same control over the CNAM data as is enjoyed by the ILEC.³⁶⁸ In providing Caller ID services, for example, batch downloads would enable CLECs to better ensure that information was retrieved in time to display to the customer. If a CLEC tried to create its own database without receiving bulk access, the database would be woefully incomplete.³⁶⁹ The CLEC would have to check its own database for the number of the calling customer and then check the ILEC's database if the information was not in its own database, all in time to

Attachment F (*Gallant/Lehmkuhl Declaration*) at ¶ 5.

³⁶⁷ See, 47 USC § 251(c)(3). Also see *Michigan Public Service Commission's Own Motion to Consider Ameritech Michigan's Compliance with the Competitive Checklist in Section 271 of the Federal Telecommunications Act of 1996*, Case No. U-12320, Opinion and Order (Dec. 20, 2001) at pp. 16-20. The Michigan PSC found that Ameritech must permit CLECs to download the CNAM database, because the CNAM database is a UNE and must be provided on a nondiscriminatory basis.

³⁶⁸ *Gallant/Lehmkuhl Declaration* at ¶¶ 10, 12. As the director of the Tennessee Regulatory Authority noted, requiring the ILEC to provide CNAM on a batch basis "... is consistent with the Act and it also serves to provide the competitors the same access to information as [the ILEC] and puts them on the same parity position." Excerpt of Directors' Conference, *Petition for Arbitration of the Interconnection agreement between BellSouth Telecommunications, Inc. and MCI Metro Access Transmission Services, LLC, and Brooks Fiber Communications of Tennessee, Inc., Pursuant to Section 252(b) of the Telecommunications Act of 1996*, Docket No. 00-00309 (Dec. 18, 2001) at p. 8.

³⁶⁹ See *Gallant/Lehmkuhl Declaration* at ¶¶ 5, 14.

provide the information to the terminating customer.³⁷⁰ Moreover, by relying on their own databases, CLECs would save the cost of paying each time they “dip” into the ILEC database, a savings that could be passed on to retail customers.³⁷¹ Enabling CLECs to obtain batch downloads of CNAM data would also enhance CLECs’ ability to offer innovative services, a capability the ILECs already possess. For example, with batch access a new entrant could offer CNAM over TCP/IP signaling rather than on the SS7 network. This would reduce cost, facilitate the development of new services, and facilitate the integration of caller ID service with emerging voice over Internet applications.³⁷² In essence, then, the batch file would allow the CLEC to use the database in exactly the same readily accessible manner as the ILEC.

There is no doubt that download access is technically feasible.³⁷³ State commission workshops have demonstrated the technical feasibility of bulk access. Specifically, the Arizona Corporation Commission staff, in its report on Qwest’s 271 compliance, noted that “[a]t the conclusion of the Workshop, all parties concluded that the type of access requested by WorldCom, *i.e.*, a download or copy of Qwest CNAM database is technically feasible.”³⁷⁴ Ameritech Michigan has filed a tariff providing for CNAM downloads in response to the orders of the Michigan Public Service

³⁷⁰ See *id.* at ¶¶ 15-16. As the Georgia Commission found, “[t]he evidence supports the conclusion that MCIW will be able to provide better service if BellSouth provided CNAM via electronic download . . .” *Petition of MCI Metro Access Transmission Services, LLC and MCI WorldCom Communications, Inc. for Arbitration of Certain Terms and Conditions of Proposed Agreement with BellSouth Telecommunications, Inc. Concerning Interconnection and Resale Under the Telecommunications Act of 1996*, Docket No. 11901-U, Order (Feb. 6, 2001) at p. 9.

³⁷¹ *Gallant/Lehmkuhl Declaration* at ¶ 13.

³⁷² *Id.* at ¶ 12.

³⁷³ *Id.* at ¶¶ 8-9.

³⁷⁴ *Qwest Communication Inc.’s Section 271 Application*, ACC Docket No. T-00000A-97-0238, Second Supplemental Report on Qwest’s Compliance (Feb. 2002) at ¶58.

Commission.³⁷⁵ Since such access is technically feasible and CLECs are impaired without it, the Commission should clarify that batch access is required by the Act.

The Commission has previously held that LECs may not restrict competitors access to the ILEC Directory Assistance database to per-query access, because “per-query access does not constitute equal access for a competing provider that wants to provide directory assistance from its own platform.”³⁷⁶ The same is true for the CNAM database. The Commission should therefore explain that ILECs are required to make the CNAM database available by download with updates to the database on a regular basis in the same manner used for the directory assistance database.

d) DA Databases

Directory Assistance Listing (DAL) refers to the subscriber records used to create databases to respond to requests for directory information, including, but not limited to, name, address, and phone numbers.

In section 251(b)(3), Congress specifically required that all LECs permit nondiscriminatory access to directory listings.³⁷⁷ The Commission should clarify that directory assistance databases also must be unbundled under section 251(c)(3).

In the Executive Summary of its *UNE Remand Order*, the Commission stated that “the order concludes that the following network elements must be unbundled: . . . call related databases, including. . . Operator Services/Directory Assistance databases.”

³⁷⁵ CNAM Download Agreement Between Michigan Bell Telephone Company d/b/a Ameritech Michigan and CLEC (Aug. 24, 2001).

³⁷⁶ *Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Provision of Directory Listing Information under the Telecommunications Act of 1934, As Amended*, CC Dockets No. 96-115, 96-98 nd 99-273, 14 FCC Rcd 15550 (Jan. 23, 2001) at ¶152.

³⁷⁷ 47 U.S.C. § 251 (b)(3); *UNE Remand Order* at ¶¶ 441, 444.

Unfortunately, while the Commission's conclusion is clear, the unbundling rules do not mention OS/DA databases. And in the *Order* itself, the Commission declined to address specifically whether CLECs would be impaired in their ability to provide telecommunications services without access to the DA database – apparently because the Commission understood that competitors already were guaranteed nondiscriminatory access to the DAL under section 251(b)(3).

Some state commissions have concluded from this, and from the Commission's decision not to impose a specific pricing structure on DAL in its *DAL Order*, that the Commission did not find DA databases to be a UNE. While this might not have mattered if the state commissions had properly concluded that cost-based rates are independently required by the non-discriminatory access provision in section 251(b)(3), the state commissions in fact are allowing ILECs to impose above-cost rates on DAL.³⁷⁸

³⁷⁸ See *Petition of MCI Metro Access Transmission Services, LLC et al. for Arbitration of an Interconnection Agreement with Southwestern Bell Telephone Company Under the Telecommunications Act of 1996*, Missouri Public Service Commission Case No. TO-2002-222, Arbitration Order (Feb. 28, 2002) at p. 37 [“In the *UNE Remand Order*, the FCC determined that nondiscriminatory access to the ILEC's underlying databases used in the provision of OS/DA is required only under Section 251(b)(3) and not under Section 251(c)(3) of the Act. . . SWBT states that the FCC's approval [of its 271 applications] confirms that SWBT is not obligated to provide DAL as a UNE. Thus, SWBT argues, [and staff and the Commission agree], that market-rates apply.”] As a result, there is a 500% difference between the rates SBC charges in Missouri and the rates the Texas PUC found to be cost-based. *Lehmkuhl Declaration* at ¶ 6. Similarly, the Colorado Commission declined to address DAL pricing because it found that the FCC did not recognize the DAL database as a UNE. *U.S. WEST Communications, Inc.'s Statement of Generally Available Terms and Conditions*, Colorado Public Utilities Commission Docket No. 99A-577, Order (Nov. 13, 2001) at p. 107. But see *Application by Pacific Bell Telephone Company for Arbitration of an Interconnection Agreement with MCI Metro Access Transmission Services, L.L.C. Pursuant to Section 252(B) of the Telecommunications Act of 1996*, California Public Utilities Commission Decision 01-09-054, Opinion Approving Arbitrated Interconnection Agreement (Sept. 20, 2001) at p. 9 (“While the FCC has not adopted a definitive methodology for pricing DAL, it gives every indication that market pricing is not acceptable.”)

This Commission should therefore clarify that DAL must be unbundled in accordance with the requirements of section 251(c)(3). This will ensure that there is no doubt that access must be provided at cost-based rates. Moreover, because section 251(c)(3) is an independent statutory provision, the Commission should apply that provision if the prerequisites are met, even if doing so would impose no additional requirements on ILECs beyond those set forth in section 251(b)(3).

There is no doubt that DAL meets the prerequisites for unbundling under section 251(c)(3). The Commission has acknowledged that ILECs “continue to maintain a near total control over the vast majority of local directory listings that form a necessary input to the competitive provision of directory assistance.”³⁷⁹ The Commission has also recognized that ILECs “have the ability to leverage their monopoly control of their DA databases into market dominance.”³⁸⁰ Consequently, nondiscriminatory access to the incumbents’ DA databases at reasonable rates is imperative for a carrier to offer a competitive DA product. Indeed, in relieving the ILECs’ of the obligation to offer DA *services* as an unbundled network element (UNE) under certain circumstances, the Commission relied on the fact that competitors themselves could offer such services *based on their access to the underlying databases*.³⁸¹ The Commission should clarify that CLECs are entitled to DA databases as a UNE under section 251(c)(3).

3. OSS

Operation Support Systems (OSS) are essential for competitors to service customers in a timely, efficient, and accurate manner.³⁸² As the California PUC stated in

³⁷⁹ See *Provision of Directory Listing Information Under the Telecommunications Act of 1934, as Amended*, FCC Rcd 2736 (2001) at ¶ 3 (*DAL Order*). See also Declaration of Michael Lehmkuhl, provided here as Attachment G (*Lehmkuhl Declaration*) at ¶¶ 4-6.

³⁸⁰ *DAL Order* at ¶ 3.

³⁸¹ *UNE Remand Order* at ¶ 441. See also, *DAL Order* at ¶¶ 3, 6 and 10.

³⁸² See Declaration of Sherry Lichtenberg provided here as Attachment H (*Lichtenberg Declaration*) *passim*.

its comments in the *UNE Remand* proceeding, the availability of OSS “is where the rubber meets the road in development of a competitive telecommunications market.”³⁸³

The Commission has consistently found that access to OSS is integral to the ability of competing carriers to enter the local market,³⁸⁴ and that carriers are impaired without such access.³⁸⁵ Indeed, the Commission previously concluded “a requesting carrier that lacks access to the incumbent’s OSS ‘will be severely disadvantaged, if not precluded altogether, from fairly competing.’”³⁸⁶

There has been no change in the marketplace or technology since the Commission issued its *UNE Remand Order* to justify the Commission’s modification of its previous decisions with regard to the definition or unbundling requirements established for OSS.³⁸⁷ MCI alone has spent \$100 million in the past two years on software development to build the necessary OSS interfaces.³⁸⁸

³⁸³ Comments of the People of the State of California and the California Public Utilities Commission, CC Docket Nos. 96-98, 95-185 (May 26, 1999) at p. 5. “Nothing can ‘impair’ a competitor’s successful entry into a market more effectively than slow, inefficient and inaccurate methods for processing customer orders and service requests.”

³⁸⁴ See, e.g., *Local Competition Order* at ¶¶ 6-10.

³⁸⁵ *UNE Remand Order* at ¶ 424. Competitors need access to OSS where CLECs are using their own facilities or ordering unbundled loops, as well as when they are reselling ILEC products or using UNE-P. For example, access to OSS is necessary to order unbundled loops to be connected to a facilities-based carriers switch, to initiate and track local number portability requests, to report and correct trouble tickets, and to receive billing data from the ILEC. Access to the CSR is necessary to determine a customer’s needs, to identify information on the type of circuit (LFACS), and to place the order itself. *Lichtenberg Declaration* at ¶¶ 8-9. As the Commission recognized in the *UNE Remand Order*, there is no sufficient substitute for the ILEC’s OSS and customer care systems for UNE orders. *UNE Remand Order*, para. 434. Therefore, as the Commission has found in its *Local Competition* and *UNE Remand Orders*, access should not be limited to situations where the competitor is ordering other UNEs or resold services from the ILEC.

³⁸⁶ See *UNE Remand Order* at ¶ 421, citing the *Local Competition Order* at ¶¶ 516-518.

³⁸⁷ See *Lichtenberg Declaration* at ¶ 2.

³⁸⁸ *Huyard Speech to NARUC*.

Access to all five OSS functions identified by the Commission remains crucial. Discriminatory treatment with regard to any of the five key functions – pre-ordering, ordering, provisioning, repair and maintenance, or billing – will severely compromise competitors' ability to provide service comparable to that of the ILEC.³⁸⁹

Pre-Order. Pre-ordering includes all the necessary information to formulate an accurate order for a customer, such as information about the telephone number, services and features, due date, customer services records and address.³⁹⁰ It also includes loop qualification information,³⁹¹ without which a competitor's ability to provide service is materially diminished. If a CLEC cannot obtain information on a customer's address or features, for example, and must instead rely on information provided by the customer, the chance of erroneous orders is dramatically increased. If a CLEC cannot obtain information on available telephone numbers or due dates, it has no way of offering a choice of numbers or due dates to its customers. And if a CLEC cannot determine whether the loop is capable of supporting the advanced services equipment the requesting carrier intends to install, incumbent LECs would be able to discriminate against other xDSL technologies in favor of their own xDSL technology.³⁹²

Ordering and Provisioning. The need for access to the ordering and provisioning functions is equally apparent. And the incumbent must provision CLEC orders in substantially the same time and manner and with the same quality as it provisions orders for its own retail customers. If the ILEC is able to more accurately and quickly provision

³⁸⁹ See *Lichtenberg Declaration* at ¶¶ 3-20.

³⁹⁰ See *Application by SBC Communications Inc., et al. Pursuant to Section 271 of the Telecommunications Act of 1996 to Provide In-Region, InterLATA Services in Texas*, Memorandum Opinion and Order, 15 FCC Rcd 18354 (2000) at ¶ 148, n. 395 (*TX 271 Order*). See also, *Lichtenberg Declaration* at ¶¶ 7-10.

³⁹¹ See *Lichtenberg Declaration* at ¶ 11.

³⁹² *Id.*

orders than competitors, competitors will be at a severe disadvantage in the marketplace.³⁹³

Maintenance and Repair. Additionally, the ability of competitors to troubleshoot and respond to customer service problems quickly and effectively is crucial to a CLEC's success in the marketplace.³⁹⁴ When a CLEC is providing resold service or service using UNEs, many of a customer's troubles will be caused by problems with ILEC facilities. As the Commission has noted, ILEC network problems appear to CLEC customers to be CLEC problems.³⁹⁵ The CLEC must, therefore, be able to access ILEC maintenance and repair information and tools in order to diagnose and solve customer complaints that emanate from ILEC facilities.³⁹⁶

Billing. Access to the ILEC OSS billing function and information is also essential.³⁹⁷ There are two basic billing functions: (i) complete, accurate and timely reports on the service usage of competing carriers' customers, referred to as "service usage reports", and (ii) complete, accurate and timely wholesale bills.³⁹⁸ As the Commission has found, service usage reports are essential because they allow competitors to track and bill the services their customers use.³⁹⁹ Wholesale bills are

³⁹³ *Id.* at ¶¶ 12-15.

³⁹⁴ *Id.* at ¶ 16.

³⁹⁵ *See Application of Verizon New York, et al., for Authorization to Provide In-Region, InterLATA Services in Connecticut*, Memorandum Opinion and Order, 16 FCC Rcd 14147 (2001) at App. D, ¶ 39.

³⁹⁶ *Lichtenberg Declaration* at ¶ 16.

³⁹⁷ *Id.* at ¶ 17.

³⁹⁸ *See Application of Verizon Pennsylvania, et al., for Authorization to Provide In-Region, InterLATA Services in Pennsylvania*, Memorandum Opinion and Order, 16 FCC Rcd 17419 (2001) at ¶ 13 (*PA 271 Order*).

³⁹⁹ *PA 271 Order* at ¶13; *TX 271 Order* at ¶ 210.

essential because CLECs must monitor the costs they incur in providing services to their customers.⁴⁰⁰

Business Processes. The business processes associated with the specific OSS interfaces, such as change management procedures, carrier-to-carrier testing processes, and help desk support, are also fundamental to a competitor's ability to provide services. In an ever-changing marketplace, a BOC must have in place procedures that enable smooth deployment of new functionality as the need arises. An effective change management process is necessary in order to enable CLECs to request new changes, to ensure they receive proper notification and documentation regarding these changes, and to test the effect of such changes before they are put in place.⁴⁰¹ Similarly, adequate help desk support is necessary for competing carriers to resolve quickly and effectively any problems that do develop with deployment of a systems change or with a specific customer complaint.

Thus, there can be no real dispute that efficient and effective OSS is critical to opening local markets to meaningful competition, and must be available on a nondiscriminatory basis and scalable to meet future demand.

⁴⁰⁰ *PA 271 Order* at ¶ 13, *Lichtenberg Declaration* at ¶ 19.

⁴⁰¹ *See, e.g., PA 271 Order* at App. C., ¶ 41; *TX 271 Order* at ¶ 126; *Lichtenberg Declaration* at ¶ 22.

IV. CONCLUSION

For all the reasons stated above, the Commission should continue to adhere to the legal framework established in the Act and apply the standards for impairment adopted in the *UNE Remand Order*. Accordingly, the Commission should require the incumbent LECs to provide requesting carriers with nondiscriminatory access to the UNEs discussed above, as well as combinations, such as EELs and UNE-P, and fiber-fed loops, at cost-based rates. The Commission should reject any attempts to impose additional limits on the ability of competitive carriers to obtain and use these or other UNEs and UNE combinations.

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